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Psych Notes for midterm

Intro Psychology (Yeshiva University)

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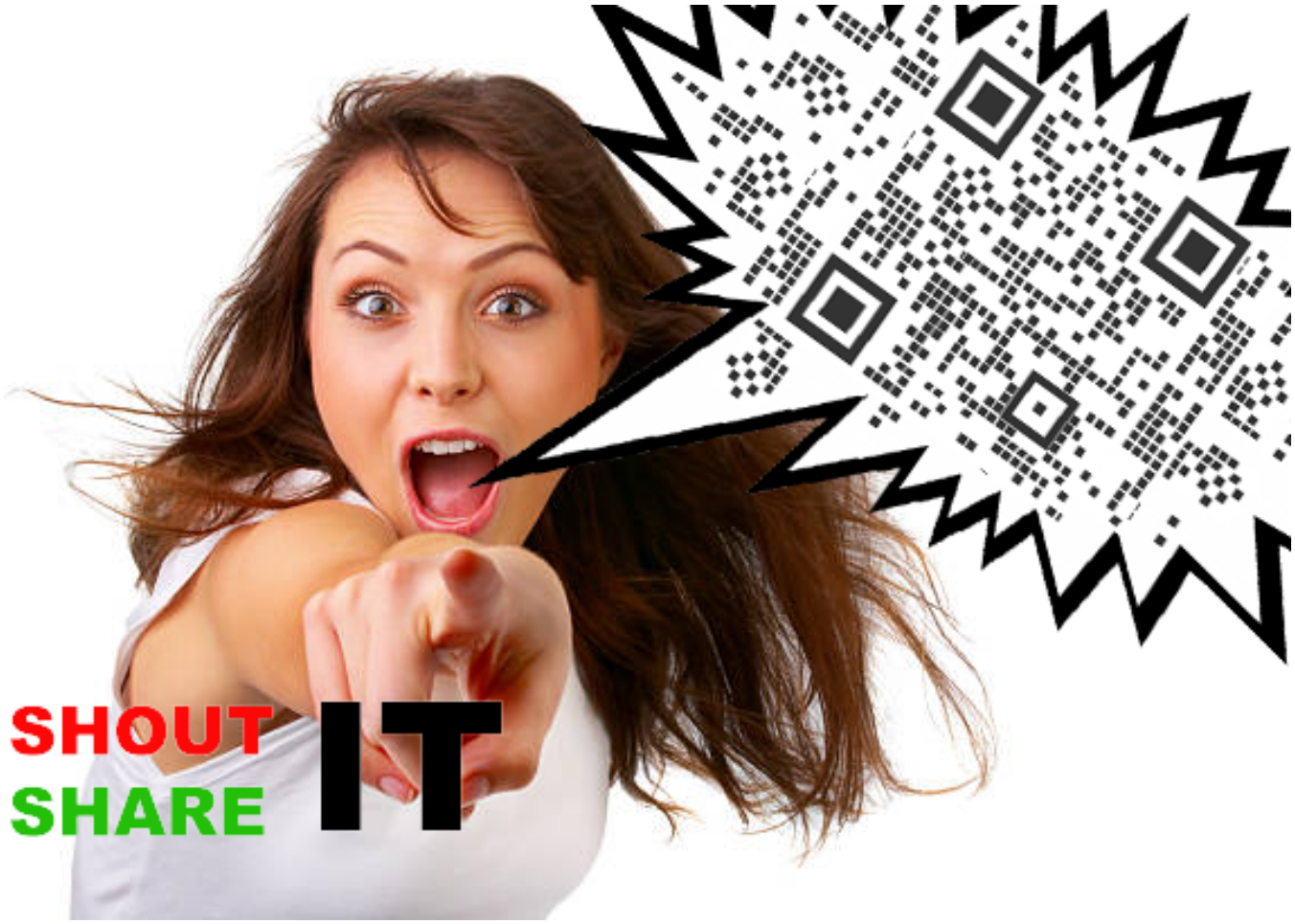
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Intro to Psychology

Chapter 1&2: The Science of Psychology and Research Methods:

Psychology is pervasive in our daily lives.

Why Study Psychology?

- We want to know who we are. Curiosity- who am I?
    - What can I learn about other people
- We see changes in people's quality of life, and want to know what makes up these changes and how we can help with these changes. Observe changes in dimensions of quality of life.
    - Physical, emotional, social, sexual, cognitive, spiritual
- We use research to understand these changes and their causes
- Develop and implement interventions to improve quality of life
    - Prevention
- Learn about psychology's applications in education, business, entertainment, etc.
    - What triggers us to shop and do things…
- PSYCHOLOGY IS NOT HERE TO TELL YOU HOW TO MANIPULATE PEOPLE

What is Psychology?

- The scientific study of behavior and mental processes.
    - It's not about anecdotes
    - Behavior is anything we do that is observable. Mental processes are our private internal experiences, our thoughts/perceptions. Psychology wants to delve into both.
    - perception= occurs when sensory stimuli are organized, interpreted and consciously experienced. Processes used to arrive at a meaningful and stable interpretation of the world.
    -
- Psychology focuses on empirical evidence and critical thinking.
    - Empirical evidence- gathered systematically, we want it to support our theories
    - We need to engage in our critical thinking and analyze and compare all this information that we gather from our empirical evidence
- Pseudopsychologies (something that happened that could have a lot of reasons) are non scientific and are not part of Psychology
    - Ex. does love and kindness decrease blood pressure

Questions we ask in Psychology:

- Free will versus Determinism (a cause/ determinant)
    - Does everything have a cause or is everything we do because of independent decisions?
        - There are psychologists that think both
        - You can measure it, you don't have a choice. Whereas a humanist would say of course you have free will.
        - Psychologists will say that there are no absolutes, what falls under free will and what has other causes.
- Nature-Nurture issue- how much of what we do, is due to genetics OR our environment? Or is it a ration between the two?
    - This is hard to test.
    - Disorders run in families, is it biology or environment? We don't know exactly.

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- Researchers have made cases for both. We tend to say that both influence us.

Psychology and Life:

- Psychology helps us scientifically evaluate common beliefs and misconceptions about behavior and mental processes.
  - Behavior varies. People don't always act the same
  - Culture can affect behavior, heat can affect behavior.
  - We need to follow the trail of behaviors and study the differences, to improve our understanding of psychology and debunk the myths.
  - Humans use 10% of their brain- False
  - Eyewitness testimony is reliable- False
    - Memory is influenced by many things
  - Opposites attract- False
  - Some people are left brained, some people are right brained- False
  - Psychologists are well paid listeners- False

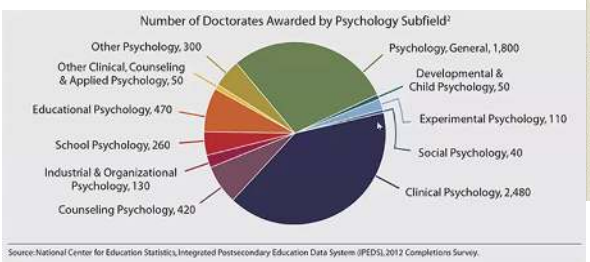
Mental Health Professions:

What are the differences between them? Educational process, training etc.

- **Clinical Psychologists-** PhD or PsyD. Work with a wide range of clients, severe mental illnesses. Your work can be very broad. Can have a specialty. Can work in a lot of different environments. Hospitals, clinics, military. May prescribe medication, depending on the state.
  - What degrees do you need? Doctorate degrees. PhD is research work, PsyD is clinical aspects (treatment focus).
  - PsyD have to do a dissertation project, and you have to answer questions about your research, and they decide if what you've done is acceptable for your profession and they decide if you graduate. When you graduate, you need to do certain hours before you can be licensed as a psychologist. Can do a postdoc, can do it in any place. Complete your hours and paperwork, do your licensing exam, then you get granted a license to be a psychologist.
  - Do not prescribe medications. In NY they do not, some states may permit.
- **Psychiatrists-** MD. Doctors. Graduates from med school like a med student, but then go to a residency in psychiatry for 4 years. Focus on pharmaceutical and medical interventions for treating mental illnesses. Primarily focus on medication.
- **Clinical Social Workers-** specialize in treatment of psychological issues. You do clinical training. Requires its only training, and expectations before you graduate in terms of training, and have to get licensed. Social workers have a shorter time of education than a psychologist and focus on linking people to resources and support. (similar to psychologists)
  - Do not prescribe medications.
- **Mental Health Counselors-** don't deal with severe mental illnesses. A newer degree. Psychotherapy, using counseling sessions to treat issues.
  - Be careful, look into what is their certification and what training they had.
  - Do not prescribe medications.

Sample careers and specialties in psychology Table 1.1

Biopsychology/neuroscience	Investigates the relationship between biology, behavior, and mental processes, including how physical and chemical processes affect the structure and function of the brain and nervous system
Clinical psychology	Specializes in the evaluation, diagnosis, and treatment of psychological disorders
Cognitive psychology	Examines "higher" mental processes, including thought, memory, mind-space, creativity, and language
Comparative psychology	Studies the behavioral and mental processes of nonhuman animals; emphasizes evolutionary and cross-species comparisons
Counseling psychology	Overlaps with clinical psychology, but generally works with less severely disordered individuals and focuses more on social, educational, and career adjustment
Cross-cultural psychology	Studies similarities and differences in and across various cultures and ethnic groups
Developmental psychology	Studies the course of human growth and development from conception to death
Educational psychology	Studies the processes of education and works to promote the intellectual, social, and emotional development of children in the school environment
Environmental psychology	Investigates how people affect and are affected by the physical environment
Experimental psychology	Examines processes such as learning, conditioning, motivation, emotion, sensation, and perception in humans and other animals (Note that psychologists working in almost all areas of specialization also conduct experiments.)
Forensic psychology	Applies principles of psychology to the legal system, including jury selection, psychological profiling, assessment, and treatment of offenders
Gender and/or cultural psychology	Investigates how men and women and different cultures vary from one another and from the one another
Health psychology	Studies how biological, psychological, and social factors affect health and illness
Industrial/organizational psychology	Applies principles of psychology to the workplace, including personnel selection and evaluation, leadership, job satisfaction, employee motivation, and group processes within the organization
Personality psychology	Studies the unique and relatively stable patterns in a person's thoughts, feelings, and actions
Positive psychology	Examines factors related to optimal human functioning
School psychology	Collaborates with teachers, parents, and students within the educational system to help children with needs related to a disability and/or their academic and social progress; also provides evaluation and assessment of a student's functioning and eligibility for special services
Social psychology	Investigates the role of social forces in interpersonal behavior, including aggression, prejudice, love, helping, conformity, and attitudes
Sports psychology	Applies principles of psychology to enhance athletic performance


Number of Doctorates Awarded by Psychology Subfield²
Other Psychology, 300
Other Clinical, Counseling & Applied Psychology, 50
Educational Psychology, 470
School Psychology, 260
Industrial & Organizational Psychology, 130
Counseling Psychology, 420
Psychology, General, 1,800
Developmental & Child Psychology, 50
Experimental Psychology, 110
Social Psychology, 40
Clinical Psychology, 2,480
Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2012 Completions Survey.

Percentage of Psychology Degrees by Specialty:

If you want to study a particular field in psychology, you need to figure out what you want to do. What are you passionate about? You

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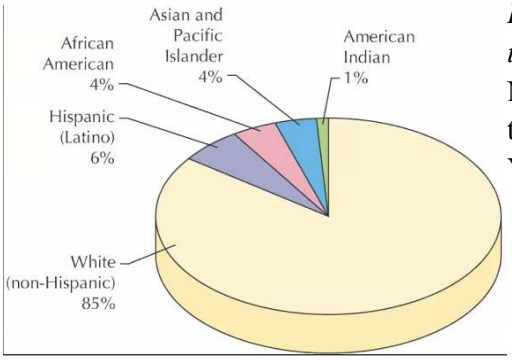
need to get licensed, what income will you earn once you have a phD? What is your employability going to be like?



Ethnicities of Doctorate Recipients in Psychology: if you want to work with diverse populations- get experience:
Not required to switch therapists just because you are not in the same faith or ethnicity (sometimes ethnicity matters)
You don't have to feel the pain to help someone.

Psychology's Four Goals:

1. Description: tells "what" has occurred? Make careful scientific observations!
2. Explanation: tells "why" a behavior or mental process occurred? We want an explanation
   Males are more aggressive? Why? Is it genetic factors? Is it culture? Is it a particular situation?
3. Prediction: identifies conditions under which a future behavior or mental process is likely to occur
   We can predict that more fights will break out in a place where alcohol is distributed
   Alcohol and aggression have a link
4. Change: applies psychological knowledge to prevent unwanted behavior or to bring about desired goals
   Ex. stop selling alcohol after a certain amount of time at a sports game

Origins of Psychology: what were these people known for?
What did they contribute? What are they known for?

- **Wilhelm Wundt:** (1832-1920) "father of psychology" (European)
  - Established the first psychology lab in Germany
  - Student- Edward Tichner, brought structuralism to the U.S.
  - Interested in sensations- how we form, them and their quality.
- **Structuralism:** sought to ID the basic building blocks (elements), or structures of mental life through systematic introspection.
  - **Systematic Introspection-** rigorous self-report of internal experiences- describe visual stimuli, sounds and states. (what are emotions that are triggered by particular experiences- those are your building blocks)
- In his lab he would expose his subjects to a flashing light and record what they saw, felt, and experienced. Sensation encompasses the sensation that goes on.
  - Sensation + senses + emotions = our perception
    - **Internal functions**
  - You can test, rather than being philosophical.
  - Talks about how we think- psychological
  - Other theorists will disagree with him.
- **William James**: North american (1842-1910)
  - **Functionalism**: studied how the mind functions to adapt organisms to their environment- what's the purpose? How does our thinking/learning help us to adapt?
    - Influenced by Darwin- what we see!
    - Need to understand the goal of a mental activity in order to understand its parts

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        - We need to look at the **purpose** of human behavior.
            - Looks at animal behaviorism and applied it to humans
            - Need to focus on observable behavior
    - Included research on emotions and observable behavior.
    - First to expand psychology, to expand to non-human animals.
    - He is known to be the best psychologist in the U.S.
- **Sigmund Freud** (1856-1939), European
- Founder of psychoanalytic perspective- grown to psychodynamic approach to psychology: unconscious processes and unresolved past conflicts cause psychological problems
- He divides the mind into three parts:
    - Conscious- in action, Preconscious- contains inactive thoughts and memories that you can access them with a little bit of effort, Unconscious- memories that are completely outside of our awareness, but profoundly affect our behavior but we are unaware that it is doing that- if these come up, we start to act with defense mechanisms.
- Basis of personality: Id, Ego, Superego
    - Id- what you are born with, inborn impulses (sex and aggression), operates on the pleasure principle, it is within the unconscious. Maximize pleasure, minimize pain. (has no rules)
    - Superego- As you grow, we will internalize rules from our environment, at home and society it will be incorporated into our superego, it is driven by moral perfection. Guilt is its big weapon.
    - Ego- driven by the reality principle. Has to use reason and thought, balance the needs of the Id with the realities of the outside world (superego).
- Psychological problems are solved by insight- understand how memories and mental processes lead to problematic behaviors
- Freud was the first to say that childhood experiences have repercussions on adult life.
- Heavily focused on dream analysis: *Interpretation of Dreams*→ dreams mask impulses and desires.
- Defense mechanisms→ repression, denial, rationalization. These try to reduce anxiety by blocking or denying facts that might generate anxiety. The ego uses these to protect us.
- **Behavioral (perspective) Psychology**→ objective, observable environmental influences on behavior. Overt behavior is measurable (what we see). Self observation and introspection is unreliable and hard to measure. We want to focus only on what is visible. Introspection (reflecting on what is going on inside) is hard to do when someone has a mental illness
    - Kicked off by Ivan Pavlov- how we learn
- **Watson and Skinner** were key figures.
- Watson→ developed principles of **behavior** modification- behaviors are changed through reinforcement and non-reinforcement. Non-reinforced behavior dies out. Thought he could make you into anything he wanted through reinforcement. Essentially, we are trained by our environment. Famous for little Albert, a child he conditioned to be afraid of rabbits. Very controversial character raised a lot of ethical questions.
- **B.F. Skinner (1904-1990), North America,** worked a lot with animals. Behavior that is reinforced continues, behavior that is not reinforced does not continue.

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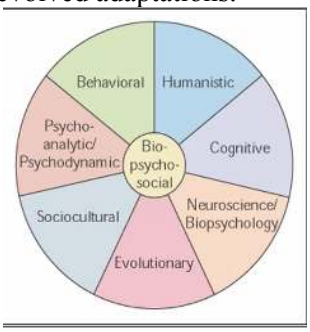
- Watson thought he could make you into whatever he wanted just through reinforcement and nonreinforcement.
- **Humanistic Perspective**→ free will and personal growth-- people are in control of their destinies and not controlled by unconscious impulses (reaction to Freud). This is based on the idea that people are born good. Self-actualization.
    - We are aware of what happens to us. We are not controlled by unconscious influences.
- Unconditional Positive Regard→ basis of Rogerian therapy. **(Carl Rogers: 1902 - 1987)**. This means being accepted for who you are no matter what you do, there is no judgement. Becoming our ultimate self, a fully functional person. You need unconditional positive regard in order to grow- you are accepted for who you are no matter what you do and who you are.
- Hierarchy of Needs **(Abraham Maslow: 1908-1970)** → studied mentally healthy people.
- Led to the modern field of **Positive Psychology**→ promotes strengths and positive attributes that enable humans to succeed. (Martin Sulligmen)
- Replication of studies is crucial when doing research.

Cognitive Perspective→ studies thoughts, perceptions, and information processing

- Infer mental processes from observable and measurable behavior.
- Schemas→ the patterns we have in our mind about the world. Tell us how to react to stimuli.
    - If we want to understand behavior we have to understand how the mind works. **Schemas** are our building blocks of knowledge- our mental representation of the world. The patterns we have in our mind about the world, they tell us how to react to things.
    - You can readjust your schemas- mental framework, need to adjust to avoid trauma
    - Infer mental processes from observable and measurable behavior
- **Neuroscientific/Biopsychological Perspective**→ focuses on genetics and biological processes in the brain/nervous system to understand normal and abnormal brain activity leading to observable behaviors.
- **Diathesis stress model**→ inherit a predisposition or vulnerability to a certain condition. If you experience the right stressor, it will trigger the vulnerability to develop. If you are never exposed to the right stressor, then you might never develop the condition.
- **Sociocultural Perspective**→ focuses on the social interaction (Vygotsky) and cultural determinants of behavior and mental processes. Factors such as ethnicity, religion, occupation and socioeconomic class have enormous psychological impacts on behavior and mental processes.
- **Darwin and Evolution**→ natural selection, adaptation, and evolution of mental processes. British naturalist, born into a wealthy family. Known for his observations done in the Galapagos Island. Studied shapes of finch beaks. Said their beaks were evidence of evolution, survival of the fittest. **Evolutionary Perspective**→ Belief in inborn mental processes, tendencies, nature or nurture?
- **Evolutionary Psychology**→ seeks to identify which human psych traits are evolved adaptations. EP postulates that the mind is shaped by pressure to survive and reproduce.
    - Ex: we jealously guard our romantic partners→ it's about reproduction. Cherish our closest relatives to protect our gene pool. We have acquired language, critical for cooperation and survival.
    - So then why do people sacrifice themselves and care about other people?



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- Multiple perspectives allow psychologists to better understand complex behavior and mental processes.
- Origins of psychology- biopsychosocial model of psychology
    - Considers the influence of genetics, the functioning of the brain, learned responses, patterns of thought, unconscious drives and instincts, socioeconomic status and culture
- It encompasses them all. We need multiple perspectives to understand why and when we see different things.

Diversity in Psychology

- **Mary Calkins**- one of the first women in psychology; developed the paired- associate learning technique which is still used for studying memory today
    - Functionalism- the purpose of behavior. Specialized on research and memory.
        - Memory- pair association technique
    - Completed her requirements for Ph.D. at Harvard, but Harvard wouldn't give her a degree because she was a woman.
    - Based on her experiences, she was a supporter of women's rights- first female president of APA
- **Margaret Floy Ashburn**- first woman to receive Ph.D. in psychology (structuralist); pre-comparative psychologist- understanding the mental processes of animals
    - Earned degree at Cornell
    - Structuralist- looking at the basic pieces of how the mind works.
    - Started the early study of animals as models in psychology
- **Fancis Cecil Sumner (1895-1954):** he didn't go to high school. Difficult to find a high school that would admit women or African Americans.
    - Home schooled by his father. Accepted into Lincoln University- earned his bachelor's degree, adn Ph.D. in Psychology (first African American).
    - He was drafted.
    - He researched racism and bias in psychological theories as well as bias in the administration of justice.
    - Also focused on the psychology of religion.
        - He had diverse interests, in really helping grow the field of Psychology.

Origins of Psychology

- **Kenneth B. Clark**- first African American APA President; he and his wife (Mamie Clark) documented harmful effects of racial segregation in schools.
- Best known for their study *Racial Identification and Preference in Negro Children (1941)*.
    - Studied about 250 male and female children, from various types of schools in different places. They presented children with dolls but they were identical except for skin color. Then they'd ask a variety of questions, "give me the doll you like the best, the nice doll, the one you like to play with, which one looks like you…" (Board of Ed)
        - 78% chose black doll when asked "Which one looks bad?"
        - They showed preference to the white doll over the black doll
    - This study is brought to the Supreme Court about the constitution- Brown vs. the Board of Education "separate but equal" schools are unconstitutional.
    - Made a statement that having kids of color in separate schools has a negative impact on how kids look at them.

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    - Took psychology from the individual and had national impact and change.
- **Martha Bernal** (1931-2001)
    - Martha Bernal was the first Latina to receive her Ph.D. in Psychology in the U.S.
        - Daughter of immigrants; went to Columbia
    - Focused work on advancing multicultural psychology and the training of clinicians in <u>diversity</u>.
    - Increased use of empirically validated interventions in treatment of children
        - When she earned her degree, she applied for faculty positions and was told "we don't hire women".
    - We need to understand the impact of culture. We want research supported interventions- systematic research and application.
        - This was after women received the right to vote.
- **Elizabeth Loftus: Ph.D. from Stanford**
    - Cognitive psychologist and expert on <u>memory (eye witness memory)</u>
        - Do eyewitnesses report accurately?
    - Developed seminal work on the "misinformation effect"
        - Can alter memories
    - Questioned <u>recovered memories</u>
    - Her work has had a profound effect in the criminal justice system
        - In the 1990's there was a trend to recover memories (abuse and trauma), people were convicted and brought to jail because of these memories.
            - But did the abuse really happen? Or is it the questioning of the researcher/therapist, that caused these and implanted these memories.
                - She found this was the case sometimes. The way they asked the questions created false memories.
                - She was hated and appreciated
- **Alberta Banner Turner (1909-2008)**
    - Dr. Turner was one of the first African American woman to receive a PhD in the US (some say the third).
    - Advanced research, treatment and rehabilitation of juveniles in the legal system
    - Used her platform as a psychologist to **fight for equal rights**
        - Paved the way for women who came after her.

<u>Research Methods- the Science of Psychology- Research: (KNOW THE DIFFERENT TYPES)</u>

Historical Ethics Violations- research on vulnerable populations to advance medicine.

- All different approaches in psych originated from research.
- **Milgrim experiment-** controversial study. Reflected on the genocide and why did people obey? People said they were following orders. How far will people go to follow orders?
- **<u>The Tuskegee Syphilis Study</u>**→ (just before WW2- 1932) Sponsored by the U.S. department of health in 400 Afircan American men (farmers) These men were not informed that they were participating in the experiment, nor were they given treatment when penicillin became available. This was supposed to last for 6 months but it lasted for 40 years. Only reason it ended was because the study got leaked to the public in 1972. 1947-- penicillin became the standard for treating syphilis. Passing syphilis in utero can lead to stillborns and miscarriages.
    - This led to the **Belmont Report**→ studied ethics in research studies. People must be offered a choice about if they want to participate in a study or not. **Respect for persons**,

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Beneficence→ balancing the goals of the study with the health of the participant, and **justice**→ the procedures must be non exploitative. For this study, these men were exploited.

- **Gynecologic Surgery-** Dr. J. Marion Sims- achieved medical advances through experimental surgical techniques on Black slaves.
- **World War II-** Heinous "research" conducted on concentration camp prisoners of war by Nazi scientists and Japanese scientists.
- **World War II- Cold War-** US Government- funded research on the effects of radiation exposure. It was conducted on uninformed individuals- pregnant women, cancer patients, mentally challenged students, etc.

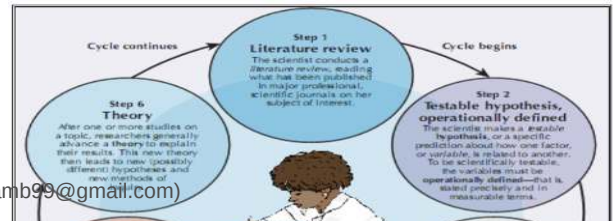
APA Ethical Guidelines- *For Human Research Participants (Originated from the Belmont Reports)*

- **Informed Consent-** Participants must be informed of the nature of the research (benefits, risks, etc). Consent must be documented.
- **Voluntary Participation-** Participants can withdraw from the study at any time.
- **Restricted use of Deception-** Participants may not respond naturally if they know the true purpose of the study. Deception to be used only when absolutely necessary. You can use deception, but must validate the need.
- **Debriefing-** Participants should be debriefed at the conclusion of study, let people know the conclusions of the study.
- **Confidentiality-** Information from participants is confidential and cannot be published in such a way that the person's privacy is compromised (especially with HIV and AIDS studies).
- **Alternative Activities-** If participation is part of a course requirement, students must be given an alternative if they choose not to participate.
- **Prior approval of research-** Institutional Review Board (IRB) must approve of study. These people are very tough and go through your research thoroughly. What's the purpose? Where is the money coming from? Are the participants being paid?
    - (Trials are important- they need to be done on humans. Need to educate people about their rights, and hopefully overcome the generational traumas from the Tuskegee study. The IRB has to approve your study.)

RIGHTS OF NON HUMAN PARTICIPANTS & PATIENTS

Historically psychological research has been done on animals. Psychologists or any researchers using animals take care of the animals (have to make sure that they are fed.) Animals used as a model to then apply to human beings. Highly controversial though (PITA, or other organizations).

- **Rights of Nonhuman Participants-** Psychologists take great care in handling research animals, & animal care committees ensure proper treatment. But the use of nonhuman animals for research remains controversial.
- **Rights of Psychotherapy Clients-** Therapists must maintain the highest of ethical standards & uphold clients' trust & confidentiality. HIPAA: Health Insurance Portability and Accountability. (revolves around privacy and rights about your health information- sets limits of uses and disclosure of patient information and who may or may not have this information)
- The APA has a lot of guidelines- friendships, relationships
    - Dr Phil lost his license because of an inappropriate relationship
- Everything has to be done ethically and safely


Cycle continues
Step 1
Literature review
The scientist conducts a literature review, reading what has been published in major professional, scientific journals on her subject of interest.
Cycle begins
Step 6
Theory
After one or more studies on a topic, researchers generally advance a theory to explain their results. This new theory then leads to new (possibly different) hypotheses and new methods of
Step 2
Testable hypothesis, operationally defined
The scientist makes a testable hypothesis, or a specific prediction about how one factor, or variable, is related to another. To be scientifically testable, the variables must be operationally defined—that is, stated precisely and in measurable terms.

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Scientific Method

Four major steps:

1. Observe- notice something
2. Detect regularities- when it happens
3. Generate a hypothesis
4. Observe (testing the hypothesis)

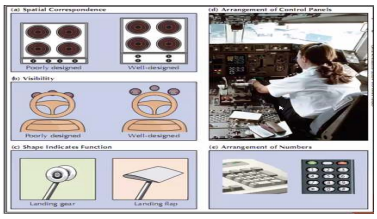
Cycle of research→ Literature review (look into your subject)→ Theory→ Testable Hypothesis→ what do your variables mean and encompass? (be very specific) → what does your research design look like? How will you do this research? → What statistics will you use? → analyze and engage in discussion about your results→ write up your results→ peer reviewed scientific journal (you'll get thoughts on the study and give thoughts on whether it should be published or not)→ theory

Types of Research

- **Basic Research:** Research conducted to advance scientific knowledge rather than for practical application
    - Meets the goals of describe, explain, and predict
        - Ex. What is depression, what are the characteristics of depression?
- **Applied Research:** Research designed to solve practical problems
    - Meets the goal of change
        - Ex. how do we develop treatments, how do we make change?

Critical Thinking

- Are these examples of basic or applied research? →
- Examples- applied research (usually comes after basic research)→



Research Methods

Four key research methods in psychology:

1. Experimental
2. Descriptive- naturalistic, observation, surveys, case study
3. Correlational
4. Biological

← Good chart to understand the pros and cons

	Research Method	Advantages	Disadvantages
Naturalistic Observation	Behavior is observed in the environment in which it occurs naturally.	Provides firsthand information that is more likely to accurately than reports after the fact. Participant's behavior is more natural, spontaneous, and varied than it is when taking place in the laboratory.	The presence of an observer may alter the participant's behavior; observer's recording of behavior may reflect preexisting bias; often unclear whether the observations can be generalized to other settings and other people.
Case Studies	Behavior of one person or a few people is studied in depth.	Yields a great deal of detailed descriptive information that's fun for forming hypotheses.	The case(s) studied may not be a representative example. Method can be time-consuming and expensive. Observer bias is a potential problem.
Surveys	A large number of participants are asked a standard set of questions.	Enables an immense amount of data to be gathered quickly and inexpensively.	Sampling biases can skew results. Poorly constructed questions can result in unreliable data, as data are not clear. Accuracy depends on participants' willingness to participate honestly.
Correlational Research	The experimenter employs statistical methods to examine the relationship between two or more variables.	Way, way! correlational analysis between variables can be carried out by other research methods. Allows prediction of behavior.	Method does not permit researchers to draw conclusions regarding cause-and-effect relationships.
Experimental Research	One or more variables are systematically manipulated, and the effect of the manipulation on other variables is studied.	Because of strict control of variables, offers researchers the opportunity to draw conclusions about cause-and-effect relationships.	The artificiality of the laboratory may influence subjects' behaviors in unexpected ways. Uncontrolled variables may confound results if many variables cannot be controlled or even ignored.

Naturalistic observation- first hand observation. (but of course if you know there is an observer, it can affect behavior, and you as an observer might have a bias. Not 100% clear you can generalize what you find.

Case studies- focus on one person or a very small group of people- get a lot of information. Hard to generalize to others. It is time consuming and expensive.

Surveys- cheap, and you can get tons and tons of data and quickly. Who responds is not up to you, there may be a bias involved in that.

Correlational Research- correlation doesn't equal causation- like to do this if we can't do an experiment (because we can manipulate variables).

Experimental research- no cause and effect

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Population Samples- first consider who we are going to study- try to avoid bias.

- Convenience sample- the group is chosen for ease of study. Expectation is that the results will be similar across groups.
    - Ex. College Students
- Representative sample- your sample should resemble the population being measured.
    - Ex. Study depression rates in NYC, if 80% whites, is that a representative sample of NYC? If 90% woman, is that a representative sample of NYC?
        - It has to reflect the makeup of NYC
- Random sample- standard sample option. The idea is if it is a random sample, then everyone has an equal chance of being selected. Hopefully the differences are averaged/evened out amongst the groups. You want equal amounts across the groups.
    - You need a sufficient sample size, to get sufficient results- so you can generalize to the population.

What's the Application

Experimental Research Method- allows to draw cause and effect relationships

- Experimental Research: carefully controlled scientific procedure that manipulates variables to <u>determine cause & effect</u>
    - **This direct manipulation of variables distinguishes it from correlational research**
- Key features of an experiment:
    - **<u>Independent variable</u>** (IV) (factor that is manipulated) versus- the factor, the one you as a researcher are manipulating
    - **<u>Dependent variable</u>** (DV) (factor that is measured, dependent on the independent variable, it causes the change in the dependent variable)
        - (Specify) Yoga (how long?) improves anxiety? IV is Yoga, DV is Level of Anxiety
    - Experimental group (receives treatment) vs. Control group (receives no treatment/standard of care)- may not be ethical to offer no treatment at all...
    - Can have variations.
- Does TV increase aggression? Hypothesis
    - Randomly assigned children to groups
    - Independent variable- what they were watching, violent or non-violent (control) program
    - Only an experiment can determine cause and effect.
    - Measured how the children interacted with the Bobo doll. Aggression= DV
    - Bandura- Bobo doll study
- **<u>Confounding Variable:</u>**
    - You can't attribute your results to just the IV, it could be that the changes in the DV could have to do with this other variable that we didn't consider.
        - (Specify) Yoga (how long?) improves anxiety? IV is Yoga, DV is Level of Anxiety. <u>What else could they have done those weeks that could have reduced anxiety?</u> New relationship, anxiety was due to work that got resolves, did psychotherapy
    - Confounding variables cloud your results/data. So you have to be very specific when setting up your experiment.

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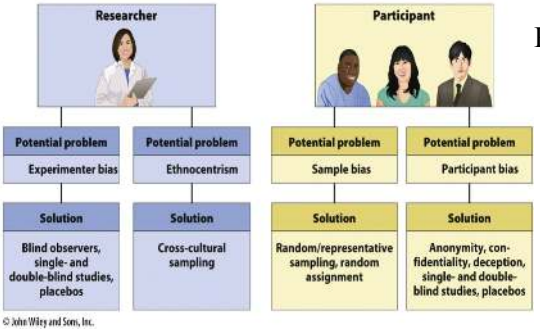
        - Try to figure out as much as you can ahead of time, to try to control these confounding variables.
    - Uncontrolled variable that changes along with the IV. Changes in the DV could be attributed to the confounding variables rather than the IV.
    - Effective control of confounding variables gives experiment internal validity. High internal validity gives confidence that your explanation is more valid than other explanations.
- Potential **researcher** problems:
    - Experimenter bias: researcher influences research results in his or her expected direction
        - Reactions
        - Freud- interpreted everything that he studied within the context of his belief system. He saw what he was expecting to see… this is not how you should do research
    - Ethnocentrism: believing one's culture is typical of all cultures
        - Typical. Seeing eating with chopsticks as abnormal, because you in your culture use a fork and a knife. It is not abnormal just because you don't do it.
        - Pharmaceutical companies, try to increase female sex drive- view females as abnormally low, because male is higher. Using males as the higher creates a bias.
        - Medications- African Americans vs White, who gets more, who has more restrictions.

Experimental Research Method

- Potential **participant** problems:
    - Sample bias: research participants are unrepresentative of the larger population
        - Depends who responds to the study
    - Participant bias: research participants are influenced by the researcher or experimental conditions
        - Will they tell the truth?
    - One way to offset experimenter & participant bias is to create a single or double-blind experimental design.
    - You know who is getting the medication, or double blind study- no one knows who is getting what, or you get one person who will know and the rest don't.
        - Have to be careful with their own expectations



Reduce participant bias- anonymous

Descriptive Research Methods

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- Descriptive Research: observes and records behavior without producing causal explanations
- Naturalistic observation: observing and recording behavior and mental processes in the participant's natural state or habitat. Can be affected by researcher's presence
    - Record things as they happen in their natural environment. You want to see behaviors in the place that they naturally occur.
- Survey: research technique that questions a large sample of people to assess their behaviors and attitudes. Self report may not be reliable, sample may not be representative
    - You get a lot of information from a lot of people. Getting their behaviors and attitudes.
    - Drawback- Self reports are not 100% reliable; do people respond truthfully 100%? Memory- you might forget. Certain people are more likely to answer surveys than others (busy people are less likely→ introduces a bias).
- Case Study: in-depth study of a single research participant (or a very small group of people). Cannot generate cause/effect relationship
    - Rare disorder where it is difficult to find many people.
- Psychological Tests:
    - Measure differences among people
    - Can include achievement tests, aptitude tests, intelligence and personality tests
    - Shows mean (average), median (middle score) and mode (most frequently occuring), standard deviation (how much your individual score varies from the mean) (descriptive statistics)
    - Inferential statistics allow the research to determine the probability that the results could occur by chance. If the probability is low = your results are statistically significant
        - T-tests, to check if valid statistics, are results due to chance? If probability is low that results are due to chance then they are statistically significant.
    - Very challenging to create tests and validate them!

Why Study Psychology?

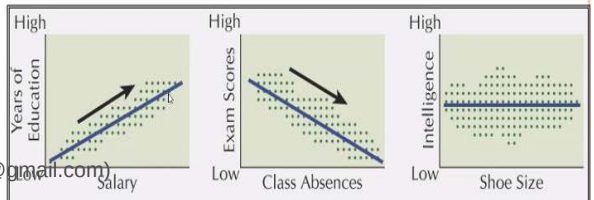
- You discover topics like naturalistic observation, which also helps you "get" the underlying humor of popular cartoons.

Correlational Research

- Correlational Research: Observes or measures (without directly manipulating) two or more variables to find **relationships** between them.
    - Does not show cause and effect. It tells us that two variables are related.
    - Ex. Cancer and stress- that stress causes cancer. You may find high levels of stress in someone who has cancer… but it doesn't cause cancer, but the stress could lead to other things that could lead to cancer. WE CAN'T SAY THAT STRESS→ CANCER.

- Different types of Correlation

- Positive Correlation: two variables move (or vary) in the **same** direction, either up or down
    - The sadder the movie, the more you cry. The more gas, the faster you go.
- Negative Correlation: two variables move (or vary) in the **opposite** direction, one up and one down
    - The more you study, the less likely you will fail.
- Zero Correlation: **no** relationship between two variables (when one variable increases, the other can increase, decrease, or stay the same.
    - No relationship between the variables.



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a) The more you study in school, the better you salary will be
b) The more absences the lower your exam score
c) Intelligence doesn't correlate to shoe size

- Correlation can never show cause and effect:

Biological Research Method

- Biological Research: scientific study of the brain and other parts of the nervous system.
- Earliest study of the brain was dissection of the dead's brains, to see what it looks like.
- One way to study the brain: Tool they used was Ablation- the surgical removal of a part of the brain. With Lesions- they destroy specific parts of the brain, to see how behavior is altered. (They mostly study mice brains). Lobotomies- go in, take a piece out of the brain to deal with a psychological disorder. Has a significant impact on personality and behavior.
- Another way to study brain function is case studies. **Phineas Gage**- observed his behavior after an injury of an iron spike going through his head. They found that he had significant personality and behavioral changes for the rest of his life (he became another person). He was responsible before, afterwards he was irresponsible, couldn't hold a job, and he was prone to aggression.
- Major tool to study the brain is EEG's- Electroencephalogram. Our brain activity is electrical. When you attach electrodes to the scalp, you will see which areas of the brain are more active. If you have a lot of electro activity in one part of the brain, that is what is working. EEG's pick up on activity.
- CT scans- gives you a cross sectional x-ray of the brain- you get a 3D image/structure of the brain. It is the least expensive, and is commonly used in research.
- Pet scans- you are injected with radioactive glucose. Because our cells use glucose for energy. If certain areas of our brain are more active, they need more fuel and ull in the glucose, and that will show you which area is most active.
    - Occipital lobes are in the back of the brain- vision
- MRI's- also giving an image of the structure of the brain. Magnetic resonance imaging. It shoots the brain with a magnetic field- that's how it creates the image. Use this to map the brain structure and abnormalities.
- fMRI- functional magnetic resonance imaging- it detects blood flow. Areas that are working will require increased blood flow.
    - CT scan and MRI are looking at brain structure- show us if something is there that shouldn't be, or if there are missing pieces of the brain.
    - PET scan and fMRI- shows us activity in the brain. Whether it's from glucose usage or blood flow.
    - EEG- measure activity in the brain- but looking at the electrical activity.
    - There are other methods- like cell body or tract staining, microinjections, instabrain electrical recordings.

Chapter 3: Biopsychology

- How does the body communicate? How is behavior controlled? Genetic code?

MYTHBUSTERS: TRUE OR FALSE?

1. Our brains are hardwired and cannot be rewired. FALSE. Neuroplasticity-- brain can respond depending on things you learn or things that happen and the brain can be rewired.

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2. Brain damage is not always permanent because we can rewire our brains-- neuroplasticity. Some brain damage is permanent. Physical and speech therapy try to take advantage of our brains adapting powers. Neuroplasticity is better when you're younger, but you still can recover function when you're older.
3. Human brain is not the largest in the animal kingdom. Largest is the sperm whale-- 17 pounds. Ours is 3 pounds.
4. Drug use doesn't cause holes in the brains. Holes in the brains come from infections like mad cow disease. Infection can cause the brain to look like a sponge. Drugs and alcohol can damage dendrites- portions of neurons and this affects transmission of electrical impulses and communication between the brain cells.
5. If a trait is heritable, it still can be changed. Traits can be affected by environmental factors (size, height etc). We inherit blood type and eye color.

BEHAVIORAL GENETICS: HEREDITARY CODE

- Studies the effects of genetic and environmental influences on behavior and mental processes
- How much do genes impact our behavior and personality? Each of our characteristics are tied to a gene. Some things are combinations of genes ex: hair color.
- At conception: 23 chromosomes from mother and father. Each chromosome has thousands of genes. Chromosomes reside in the cell nucleus except for in red blood cells.

EVOLUTIONARY PSYCHOLOGY

- Evolutionary Psychology: A subfield of psychology studying how **natural selection** and adaptation help explain behavior and mental processes
    - It suggests that common behaviors among human populations, from eating to fighting with our enemies, emerged and remain in human populations because they helped our ancestors survive.

Natural Selection: The driving mechanism behind evolution, which allows individuals with genetically influenced traits that are adaptive in a particular environment to stay alive and reproduce – which helps the genome to survive into the next generation.

- We have diversification in genetics. Our genes influence our behavior. If we have genes for aggression, those who have them will be more adapted to their environment to those who are lacking in that gene. They will be able to protect themselves better than someone who doesn't. Those natural selection pressures show us why we have certain behaviors today. Even working cooperatively is because of natural selection, we adapt to our environment. Whoever did have these did not survive.

OUR GENETIC INHERITANCE: GENES & DNA

- The nucleus of every cell contains genes, which carry the code for hereditary transmission.
- These genes are arranged along chromosomes (strands of paired DNA).
- Malnourished children may not reach their full genetic potential, which demonstrates how environmental factors interact with genetic factors.
- Lack of food and water will affect the expression of our genes. So does the environment.

GENES & DNA- **Genes provide the data for the development of characteristics but the environment can shape them and have an impact.**

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Genes can be altered. There could be genetic changes that alter the base pairs. Chromosomes divide, or you have an extra one (down syndrome).

- **Genotype** – the actual genetic code
    - Mutations however can change the genetic code
    - Epigenetic changes can affect gene activity and be inherited (Epigenetic do not change the genetic code, but something is added and they turn on or off genes that shouldn't be. Can cause genes to not function normally. This has to do with genetic disorders and cancer. DNA methylation can happen when it should not). This can include pollutants or smoking.
        - **Epigenetic changes-** don't actually change the genetic sequence/code, but something is interfering with the activity of these genes. Turning them off when they should be on and turning them on when they should be off.
- **Phenotype**- the observable characteristics of the genetic code (can be influenced by the environment). This is what we see.

MUTATIONS

A lot of mutations come from environmental sources.

Methylation- DNA methylation is involved in the issue of the BRCA genes that can lead to breast cancer. Adding methyl groups to a DNA strand, and then the gene will be turned off and will not produce a certain protein (sometimes it is appropriate to turn off the gene). But sometimes adding methyl groups implicates disease.

- Example: **BRCA1 and BRCA2 are human genes that produce tumor suppressor proteins**. These proteins help repair damaged DNA. They are always working.
- Mutations affect gene expression - either the protein is not made or the protein does not function as intended, impairing DNA repair.
- If DNA is not repaired, potentially the build up of alterations in DNA may lead to cancer.
    - These specific inherited mutations in BRCA1 and BRCA2 increase the risk primarily of female breast and ovarian cancers
    - BRCA1 and BRCA2 account for about 20 to 25 percent of hereditary breast cancers (5 to 10 percent of all breast cancers). That means that 75% can be due to things we don’t know yet.
        - Men can also inherit this, and develop breast cancer. They can pass these genes to their daughters as well.
    - BRCA1 and BRCA2 account for around 15 percent of **ovarian cancers**.
        - Those women or men who have these mutations- the women tend to develop these cancers earlier in life more than women who do not have these mutations.
        - Breast & ovarian cancers associated with these mutations tend to develop earlier in women with these mutations.
    - The younger you are the more aggressive. The cancer binds with estrogen, the more estrogen the more aggressive.
    - Prevalence – More prevalent amongst those of Ashkenazi Jewish descent than the general US population. Higher prevalence is also seen among Norwegian, Dutch, and Icelandic populations.
    - **It is a mutation that affects the phenotype.**

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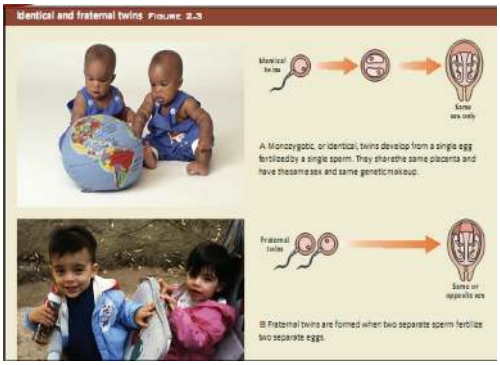
- Rat study: Behaviorally scientists have studied rats- pups (baby rats), who had attentive mothers, had increased methylation in areas of the hippocampus that are related to stress response.
    - The increased methylation, made the pups have less stress in the environment than pups who have mothers that neglected them.
    - If brought a neglected pup to a new nurturing it will likely increase methylation.
    - Environment influences the activity of the genes. Environment can impact gene expression.
    - Neglected kids are very damaged. If we take them in a healthy environment, they still have a hard time. Humans are much more complicated.

OUR GENETIC INHERITANCE

- Malnourished children may not reach their full genetic potential, which demonstrates how environmental factors interact with genetic factors.
    - That is why we want to have the best environment possible. So that people can grow into their best selves.

GENES & BEHAVIOR


Identical and fraternal twins FIGURE 2.3
A Monozygotic, or identical, twins develop from a single egg fertilized by a single sperm. They share the same placenta and have the same sex and same genetic makeup.
B Fraternal twins are formed when two separate sperm fertilize two separate eggs.

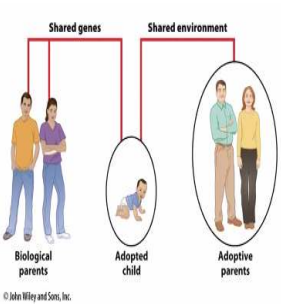
- how would you research? Psychologists like to look at twins. Identical twins coming from the same egg that has been divided into two separate eggs (the genes are the same) will either be two XX or two XY. Fraternal twins develop from two separate eggs, the DNA is not identical, two separate eggs and sperm can have two XX or two XY or one and one.
- twins can help psychologists study development.

METHODS FOR STUDYING HERITABILITY

- Family Studies:
    - If a specific trait is inherited, biological relatives should show increased trait similarity, compared to unrelated people.
        - Psychologists like to study families that have biological and adopted children.
        - Closer relatives, like siblings, should show more similarity than distant relatives.
        - Sociability runs in families.

Adoption Studies

- If adopted children are MORE like their biological parents, then genetic factors have a greater influence on that trait.
- If adopted children are MORE like their adoptive parents, then environmental factors have a greater influence on that trait.
- **Diathesis Stress Model- a predisposition:** those with an underlying vulnerability for a disorder are more likely to develop the disorder than others when exposed to a stressor. **Stressors trigger vulnerabilities. If you do not encounter the stressor, you will ot develop a psychological disorder.**
    - **What's the stresser, what's the vulnerability?**



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- Can be a biological (ex: being exposed to toxins can trigger a gene to be expressed) or psychological vulnerability (ex: trauma, abuse, bereavement, covid isolation).
- Adopted children with a history of a disorder raised in a healthy family (6 %) had a very similar chance of developing the disorder compared to an adopted child with no family history of disorder raised in a family with a dysfunctional family (5.3%). Genetics play a role, but they are not everything. Environment has a lot to do with gene expression.

Pause & Reflect: Critical Thinking

- Given that **height has one of the highest heritability estimates** (around 90%), what other factors might help explain the height differences in this mother & daughter? Nutrition, father's genes, maybe the mom has tall genes but came from an environment lacking in nutrition.

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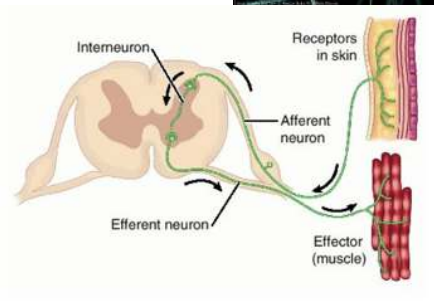
Start for Final:

Biopsychology: The Brain: Chapter 3:

NEURAL BASES OF PSYCHOLOGY

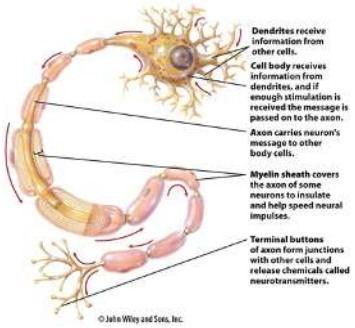
- Our nervous system consists of neurons (cells responsible for receiving & conducting electrical impulses from the brain).
    - Neurons **communicate** with each other to produce what we see.
    - Neurons= blocks of communication

3 MAIN TYPES OF NEURONS



- **Sensory** – carry messages from the environment to the spinal cord and brain
    - Pick up information from the environment, they detect a stimulus, they will tell you if it is cold outside, they pick up sound and transmits the message to the central nervous system.
- **Interneurons** – most common neuron; convey messages from one site to another
    - Connecting pathways between sensory and motor neurons, they help transmit information.
- **Motor neurons** – transmit messages and commands from the central nervous system (CNS) to muscles and glands to <u>produce a response</u>
    - Message comes to the motor neuron to produce a response and action.
    - Pathway is sensory to interneurons to motor neurons.

THE STRUCTURE OF A NEURON


Dendrites receive information from other cells.
Cell body receives information from dendrites, and if enough stimulation is received the message is passed on to the axon.
Axon carries neuron's message to other body cells.
Myelin sheath covers the axon of some neurons to insulate and help speed neural impulses.
Terminal buttons of axon form junctions with other cells and release chemicals called neurotransmitters.
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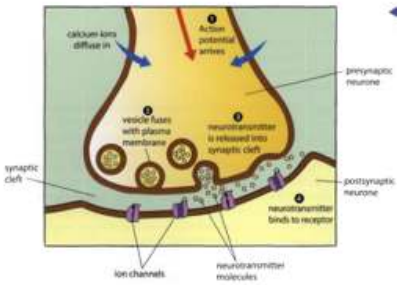
- No two neurons are alike (like snowflakes), but most share three basic features: **dendrites** (means tree- has branches which receives info and carries it to the nucleus, the neuron will not necessarily fire, need to meet a certain action potential and have enough stimulation), the **cell body**, and an **axon** (Figure 2.6). To remember how information travels through the neuron, think of these three in reverse alphabetical order: ***<u>Dendrite → Cell Body → Axon</u>***.
- A neuron's basic function is to transmit information throughout the nervous system. <u>Neurons "speak" in a type of electrical and chemical language</u>. The process of neural communication begins within the neuron itself, when the dendrites and cell body receive electrical "messages." These messages move along the axon in the form of a **neural impulse, or action potential** (Figure 2.7).
- Nerve impulses move much more slowly than electricity through a wire. A neural impulse travels along a bare axon at only about 10 meters per second. (Electricity moves at 36 million meters per second.)
- Some axons, however, are enveloped in fatty insulation, the **myelin sheath.** Glial cells form the myelin sheath. This sheath blankets the axon, with the exception of periodic *nodes,* points at which the myelin is very thin or absent. In a myelinated axon, the nerve impulse moves about 10 times faster than in a bare axon because the action potential jumps from node to node rather than traveling along the entire axon.



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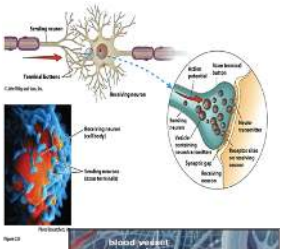
- One of the first signs of MS is changes in vision. Tests can be done to determine how quickly a message is transmitted.

NEURAL BASES OF PSYCHOLOGY: NEURAL COMMUNICATION

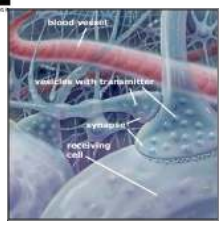
- *Within* a neuron, communication results from an **action potential** (a neural impulse that carries information along the axon of a neuron). Need a certain amount of stimulation to reach the action potential. It is an all or nothing process. Little bit of stimulus? No firing of the neuron.
- **Refractory period** – "a rest between firing;" further action potentials cannot be generated. The amount of time this lasts for depends on the neuron. Once the rest period is over, it can fire again.
- **Within the neuron, communication is electrical.**

NEURAL COMMUNICATION: *BETWEEN* NEURONS



- *Between* neurons, communication occurs through transmission of neural information across a **synapse by neurotransmitters** (chemicals released by neurons that alter activity in other neurons).
- **Between neurons, the communication is chemical.**

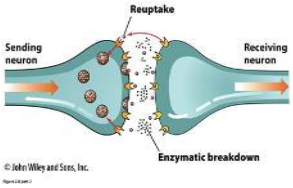
NEURAL BASES OF PSYCHOLOGY: NEURAL COMMUNICATION



- Receiving neurons receive **multiple** messages from other neurons. These multiple messages then determine if an action potential occurs or not.

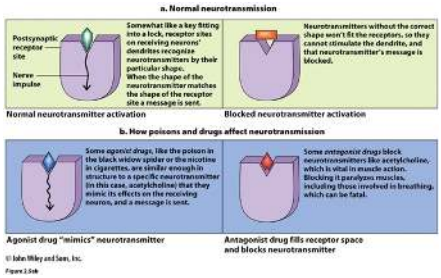
Pause and Reflect Assessment:

- What happens to excess neurotransmitters or to those that do not "fit" into the adjacent receptor sites? Key and Lock design. Needs to fit perfectly if not then there is something called reuptake.



- The sending neuron normally reabsorbs the excess neurotransmitters (called "**reuptake**") or they are broken down by special enzymes.
- Medications: SSRIs- alleviate depression. By taking an reuptake inhibitor it blocks the reabsorption (blocks the reuptake) of the neurotransmitter.

HOW POISONS AND DRUGS AFFECT OUR BRAIN


a. Normal neurotransmission
Postsynaptic receptor site
Nerve impulse
Somewhat like a key fitting into a lock, receptor sites on receiving neurons' dendrites recognize neurotransmitters by their particular shapes. When the shape of the neurotransmitter matches the shape of the receptor site a message is sent.
Neurotransmitters without the correct shape won't fit the receptors, so they cannot stimulate the dendrite, and that neurotransmitter's message is blocked.
Normal neurotransmitter activation
Blocked neurotransmitter activation
b. How poisons and drugs affect neurotransmission
Some agonist drugs, like the poison in the black widow spider or the nicotine in cigarettes, are similar enough in structure to a specific neurotransmitter (in this case, acetylcholine) that they mimic its effects on the receiving neuron, and a message is sent.
Some antagonist drugs block neurotransmitters like acetylcholine, which is vital in muscle action. Blocking it paralyzes muscles, including those involved in breathing, which can be fatal.
Agonist drug "mimics" neurotransmitter
Antagonist drug fills receptor space and blocks neurotransmitter
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- *Foreign chemicals, like poisons and drugs, can mimic or block ongoing actions of neurotransmitters, thus interfering with normal functions.*
    - There are foreign chemicals that can block neurotransmitters. Sometimes it can be harmful or helpful (in the beauty industry).
    - We have the lock and key design (neurotransmitter fits into the lock, then the message passes on) but if the shape doesn't fit, it won't stimulate the dendrite and the message won't be passed on.
- **Agonist-** mimics activity of neurotransmitter- increases activity of the neurotransmitter.
- **Antagonist-** plug up the receptor and will stop the activity of the neurotransmitter. (Botox (Botulinum Toxin)- binds to receptors and will block the activity, they don't do anything but bind.)

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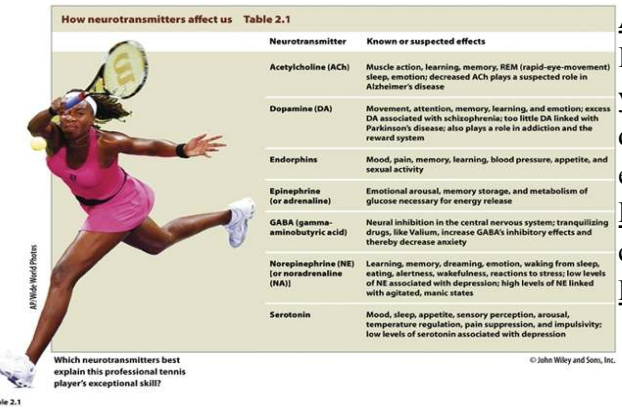
- You had a botox injection in your forehead, your muscles don't move because it bound to those receptors, so acetylcholine cannot bind to it, so it doesn't move.
- If you have an overload of this, it can cause death. It will block the activity of your heart (your heart is a muscle)
- Coraray: it will paralyze the muscles that help you breathe.
- Antagonists can have a very negative effect on the human body. Basically get poisoned.
- Cocaine and Heroin can also block activity.
- The body likes to recycle.

How Neurotransmitters Affect Us:



How neurotransmitters affect us Table 2.1

Neurotransmitter	Known or suspected effects
Acetylcholine (ACh)	Muscle action, learning, memory, REM (rapid-eye-movement) sleep, emotion; decreased ACh plays a suspected role in Alzheimer's disease
Dopamine (DA)	Movement, attention, memory, learning, and emotion; excess DA associated with schizophrenia; too little DA linked with Parkinson's disease; also plays a role in addiction and the reward system
Endorphins	Mood, pain, memory, learning, blood pressure, appetite, and sexual activity
Epinephrine (or adrenaline)	Emotional arousal, memory storage, and metabolism of glucose necessary for energy release
GABA (gamma-aminobutyric acid)	Neural inhibition in the central nervous system; tranquilizing drugs, like Valium, increase GABA's inhibitory effects and thereby decrease anxiety
Norepinephrine (NE) (or noradrenaline (NA))	Learning, memory, dreaming, emotion, waking from sleep, eating, alertness, wakefulness, reactions to stress; low levels of NE associated with depression; high levels of NE linked with agitated, manic states
Serotonin	Mood, sleep, appetite, sensory perception, arousal, temperature regulation, pain suppression, and impulsivity; low levels of serotonin associated with depression

Which neurotransmitters best explain this professional tennis player's exceptional skill?

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Acetylcholine- muscle action, involved in increasing muscle activity. It is a stimulant, it moves your muscles. If you have too much of that you become jittery, it causes pain, tremors, blood pressure goes up, dizziness, chest pain. (Black widow spider, smoke a lot- will reach excessive levels)

Dopamine- involved with movement and mood. Too much dopamine can be implicated with schizophrenia, too little can be linked with Parkinson's disease (see a lot of movement).

Cocaine- blocks the reuptake of dopamine. So the synapse is flooded with dopamine, so you feel really good and high. Clogs up the receptors.

Endorphins- release natural neurotransmitters, the brains morphine. Exercise will increase the endorphins and you will feel better.

Epinephrine- adrenaline. Involved in emotional arousal. Fight or flight→ you release epinephrine.

GABA- an inhibitory neurotransmitter- the most common one. It is calming. Too little GABA will cause a lot of anxiety.

Valium- increases GABA inhibitory effects.

Before you get your period, GABA can weaken and become less effective, so a lot of women experience increased anxiety. Sometimes during the period as well. (During PMS).

Alcohol- binds to GABA receptors, it is a depressant. Their neuronal firing is inhibited.

Norepinephrine- involved in learning and memory. High levels will increase activity and wakefulness/alertness and manic states you can become agitated. Low levels can be associated with depression, feeling down/fatigued/sad/less alert.

Serotonin- affects the mood. We take them to feel better. Low levels linked to depression. We have anti-depressants to support it

Ecstasy- increases serotonin, dopamine, and epinephrine. Will call mood elevation and will cause you to see things (associated with schizophrenia/dopamine). You get agitated but feel really good. Taking too much will cause confusion, despair, and will impair memory and attention. It stimulates the body so can cause seizures, heart attacks, and strokes. Overdose of ecstasy can lead to this.

Pause & Reflect: Assessment:

1. Dendrites receive information from other neurons. The axon carries the neuron's messages to other body cells.
2. **How does neural communication *within neurons* differ from communication *between neurons*?**

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Within the neurons= electrical; between the neurons (need a neurotransmitter)= chemical

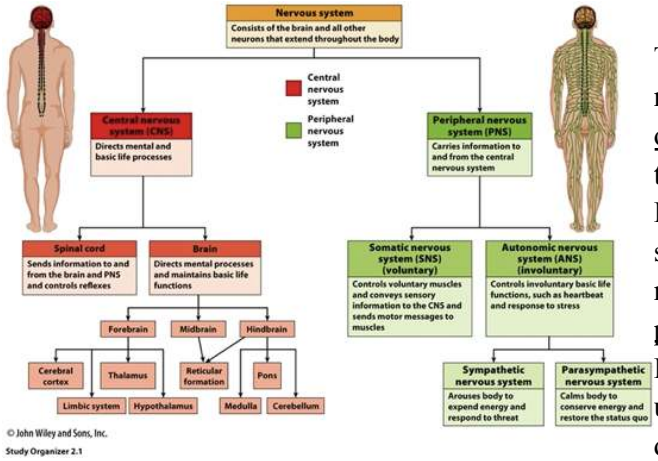
Nervous System Organization

- Central Nervous System (CNS): **brain & spinal cord**
- Peripheral Nervous System (PNS): all **nerves** & **neurons** connecting CNS to the rest of the body
  - Peripheral Nervous System is subdivided into the **somatic** & **autonomic** (out of our control) nervous systems
    - Autonomic nervous system subdivided into **sympathetic** & **parasympathetic** nervous systems
      - They are *involved in increasing activity and decreasing activity*.

The Big Picture

Central Nervous System (CNS): Brain and Spinal Cord

Peripheral Nervous System (PNS): All nerves and neurons connecting the central nervous system to the rest of the body


Nervous system
Consists of the brain and all other neurons that extend throughout the body
Central nervous system
Peripheral nervous system
Central nervous system (CNS)
Directs mental and basic life processes
Peripheral nervous system (PNS)
Carries information to and from the central nervous system
Spinal cord
Sends information to and from the brain and PNS and controls reflexes
Brain
Directs mental processes and maintains basic life functions
Somatic nervous system (SNS) (voluntary)
Controls voluntary muscles and conveys sensory information to the CNS and sends motor messages to muscles
Autonomic nervous system (ANS) (involuntary)
Controls involuntary basic life functions, such as heartbeat and response to stress
Forebrain
Midbrain
Hindbrain
Cerebral cortex
Thalamus
Reticular formation
Pons
Limbic system
Hypothalamus
Medulla
Cerebellum
Sympathetic nervous system
Arouses body to expend energy and respond to threat
Parasympathetic nervous system
Calms body to conserve energy and restore the status quo
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Study Organizer 2.1

The **central nervous system** is responsible for processing and organizing information. To keep the body's functioning going. Damage to the central nervous system usually does not regenerate and therefore is permanent damage to the CNS. Brain damage from strokes is usually permanent, and spinal damage usually results in paralysis. We have the capacity for **neuroplasticity-** to allow for *healthy parts of the brain to take over the damaged parts.*

There is something called neurogenesis- *replace damaged cells with new cells*. Replacing a cell does not create new connections that the damaged neuron has. Stem cell research… expensive.

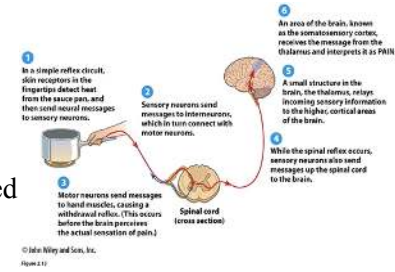
Peripheral Nervous System- carries messages, they link the spinal cord and brain to the body's sensors, and glands. Divided into two: **Somatic-** voluntary. Takes sensory information to the Central Nervous System and sends motor messages to the muscles. **Autonomic-** involuntary. control is involuntary basic life-functions, the heartbeat and response to stress (supposed to keep your body functioning).

Autonomic divided into two: **Sympathetic Nervous System**- arouses body to expand energy and respond to threat. Parasympathetic Nervous System: calms the body down. Bring you back to homeostasis. Replenish resources that were burned away.

- When you are getting ready to run a race, your sympathetic nervous system kicks in, it arouses your body to expand energy. You run the race, go to the spa and meditate and relax (parasympathetic nervous system). Calms your breathing and brings you back to homeostasis.

Nervous System Organization: *Central Nervous System (CNS)*

- **Brain**
- **Spinal Cord:** transmits information into & out of the brain
  - It relays the messages from the body to the brain.
  - Has automatic behaviors of it's own- our reflexes. They are involuntary, automatic, don't require a signal to the brain to occur. Sometimes we need an instant response to avoid danger and immediately grasp the benefit.
  - Reflex is triggered by the spinal cord.


1 In a simple reflex circuit, skin receptors in the fingertips detect heat from the sauce pan, and then send neural messages to sensory neurons.
2 Sensory neurons send messages to interneurons, which in turn connect with motor neurons.
3 Motor neurons send messages to hand muscles, causing a withdrawal reflex. (This occurs before the brain perceives the actual sensation of pain.)
4 An area of the brain, known as the somatosensory cortex, receives the message from the thalamus and interprets it as PAIN
5 A small structure in the brain, the thalamus, relays incoming sensory information to the higher, cortical areas of the brain.
6 While the spinal reflex occurs, sensory neurons also send messages up the spinal cord to the brain.
Spinal cord (cross section)
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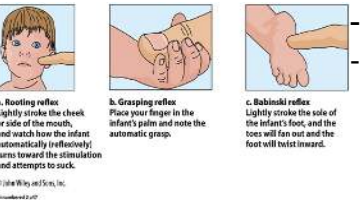
How the Spinal Reflex Works


. Rooting reflex
ightly stroke the cheek
r side of the mouth,
nd watch how the infant
utomatically (reflexively)
urns toward the stimulation
nd attempts to suck.
b. Grasping reflex
Place your finger in the infant's palm and note the automatic grasp.
c. Babinski reflex
Lightly stroke the sole of the infant's foot, and the toes will fan out and the foot will twist inward.

- **Reflex:** Innate, automatic response to a stimulus (e.g., knee-jerk reflex)
- The spinal cord is responsible for involuntary, automatic behaviors called **reflexes**.

Ex. pick up a hot pan and drop it. That's how fast a reflex occurs. Your fingertips detect the heat, and immediately the sensory neurons take the information to the spinal cord which triggers you to drop the pan. Happens instantaneously. However the message still goes to the brain, which is why you drop the pan and then you are like "ow'. Your somatosensory cortex picks up the message and says, "this is pain".

Ex. Rooting reflex- an infant, something touching near the mouth, needs to survive so moves its mouth towards the touch. As they grow, they can direct themselves towards food.

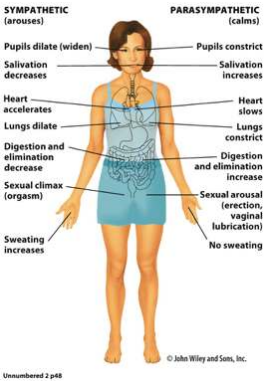
Ex. Grasping Reflex- finger- grasp finger, safety- holding on.

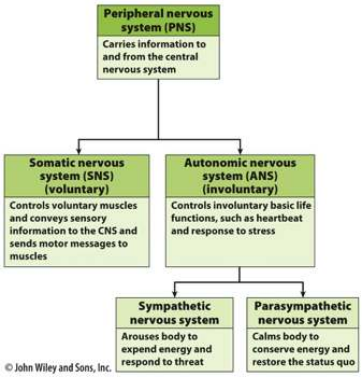
Ex. Babinski reflex- stroke sole of infants foot, and the toes will fan out and the foot will twist inward.

Pause & Reflect: Assessment

1. You touch a hot stove & then immediately & reflexively pull away. This action was controlled by your spinal cord.
    a. Then you have the sensation of "HOT".
2. After being startled by the sight & sound of a fierce dog rushing toward you, it is most likely that your sympathetic is dominant.
    a. Then parasympathetic will calm you down to homeostasis.

Peripheral Nervous System: Connecting CNS to the Body




Peripheral nervous system (PNS)
Carries information to and from the central nervous system
Somatic nervous system (SNS) (voluntary)
Controls voluntary muscles and conveys sensory information to the CNS and sends motor messages to muscles
Autonomic nervous system (ANS) (involuntary)
Controls involuntary basic life functions, such as heartbeat and response to stress
Sympathetic nervous system
Arouses body to expend energy and respond to threat
Parasympathetic nervous system
Calms body to conserve energy and restore the status quo
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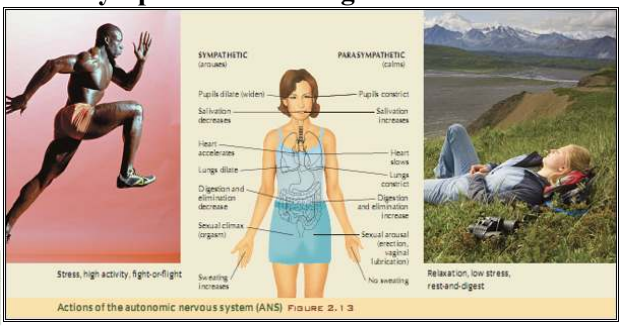
Sympathetic- arousal

Parasympathetic- calming



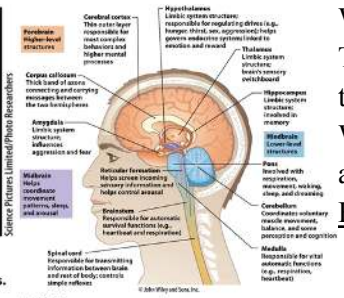
Nervous System Organization

- Anatomy & functions of the sympathetic (arouses) & parasympathetic (calms) nervous systems

A Tour of the Brain

- Localization of function: specialization of various parts of the brain for particular functions. However, most parts of the brain perform integrating, overlapping functions.

Actual photo of the brain
This deceased human's brain is sliced down the center, splitting it into right and left halves. The right half is shown in this photo.



We will see the functions of each part in the brain. There is localization of the function. Certain parts of the brain have certain functions.

We use 100% of our brain. Some overlapping function and some focus.

Hindbrain, Midbrain, and Forebrain.

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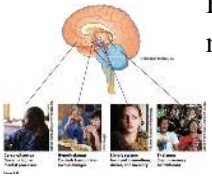
Hindbrain+Midbrain- are the first that evolved in terms of our nervous system= Reptilian Brain
Forebrain- higher level structures, then evolved.
Hindbrain- Lower level functions. Motion and balance. Has the basic structures that focus on **basic life functions**.

Hindbrain Structures:

- ***Medulla:*** Hindbrain structure responsible for vital automatic functions, such as respiration and heartbeat
    - Job- to control breathing and heart-beat. Extension of the spinal cord, the **brain stem**
- ***Pons:*** Hindbrain structure involved in respiration, movement, waking, sleep, and dreaming
    - Controls respiration.
    - Has axons that cross from one side of the brain to the other.
- ***Cerebellum:*** Hindbrain structure responsible for coordinating fine muscle movement, balance, and some perception and cognition
    - The cerebellum, responsible for smooth and precise movements, is one of the first areas of the brain to be affected by alcohol.
        - This is one of the first areas affected by drinking alcohol. Balance is impaired, can't walk in a straight line or touch nose.
    - Responsible for movement/balance.

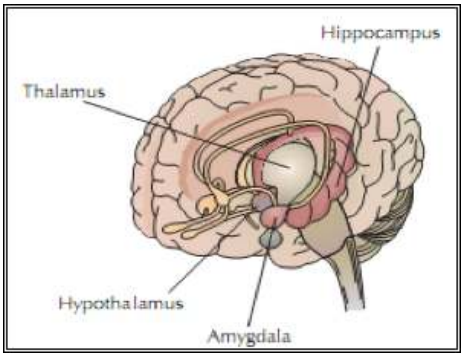
Midbrain- fine tuning. Eye and body movements, to visual and auditory stimuli. Transmissions center.

- ***Midbrain:*** Collection of brain structures in the middle of the brain responsible for coordinating movement patterns, sleep, and arousal
- ***Reticular Formation:*** Diffuse set of neurons that helps screen incoming information and controls arousal
    - Network of neurons. Screens incoming sensory information. Controls arousal, alertness and consciousness.
    - Anesthesia- surgery, it suppresses the reticular formation, it blunts the sensory information passing through.



Forebrain- Higher level functions- ultimate level of the brain. Information coming from hindbrain→ midbrain→ forebrain

- ***Limbic System***
- ***Thalamus***
- ***Hypothalamus***
- ***Cerebral Cortex***



Limbic System: Interconnected group of forebrain structures involved with *emotions, drives, and memory*

- ***Thalamus:*** relay station, air traffic control-- decides where sensory info should be sent. Integrates input from the senses and sends it to relevant areas of the brain.
    - If this area is damaged, information might not get to where it is supposed to go.
    - Information could also be misinterpreted.
    - Damage to thalamus could be connected to schizophrenia.
        - Aggression, fear… can we regulate our emotions if there is damage to the brain.
        - Damage- trouble getting sensory where it needs to go

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- ***Hypothalamus:*** Small brain structure beneath the thalamus that helps *govern drives* (hunger, thirst, sex, and aggression, temperature) and hormones.
- ***Hippocampus:*** Part of the limbic system involved in forming and retrieving *memories*
    - Helps us form new memories, and connects our motions and senses to memories.
    - If you smell apple pie and it takes you back to a happy memory, that is because the hippocampus has linked this information.
    - Involved in forming memories- it is very much affected by Alzheimer's disease.
        - Difficulty in forming new memories. Short term memory has problems.
    - Involved in navigation and spatial orientation.
        - Also ties into Alzheimer's disease, as it progresses they tend to wander and get lost.
- ***Amygdala:*** Limbic system structure linked to the production and regulation of emotions (e.g., aggression and fear)
    - Processes emotions, aggression, fear, pleasure…
    - Damage→ no fear response. Lack of inhibitions. Hard time detecting danger.

A Tour Through The Brain: Cerebral Cortex

- ***Cerebral Cortex:*** thin surface layer on the left & right cerebral hemispheres; regulates most complex behavior, including sensations, motor control, & higher mental processes
    - Help increase surface area, without actually needed more space
    - Made up of 30 billion neurons and cells
        - Helps make decisions
        - Division between right and left hemispheres is the fisher.
        - *Brain dead= cerebral cortex electro activity has stopped*
            - Can use EEG to detect this.
        - **Left hemisphere- affects right side of your body**
        - **Right hemisphere- affects left side of your body**
    - It is divided into different lobes…↓

Major Functions of the Lobes of the Brain

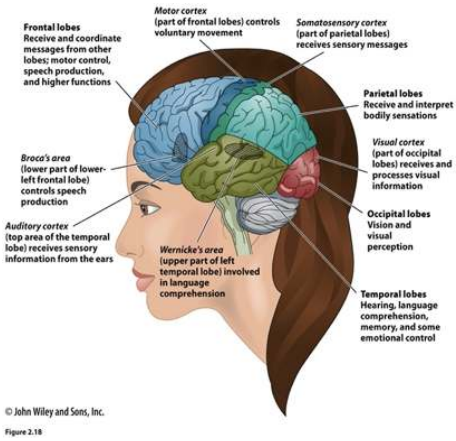
Motor cortex
(part of frontal lobes) controls voluntary movement
Somatosensory cortex
(part of parietal lobes) receives sensory messages
Frontal lobes
Receive and coordinate messages from other lobes; motor control, speech production, and higher functions
Parietal lobes
Receive and interpret bodily sensations
Visual cortex
(part of occipital lobes) receives and processes visual information
Broca's area
(lower part of lower-left frontal lobe) controls speech production
Occipital lobes
Vision and visual perception
Auditory cortex
(top area of the temporal lobe) receives sensory information from the ears
Wernicke's area
(upper part of left temporal lobe) involved in language comprehension
Temporal lobes
Hearing, language comprehension, memory, and some emotional control
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Figure 2.18

- ***Frontal Lobes:*** **Two lobes** at the front of the brain governing voluntary behavior and decision-making, as well as higher functions such as thinking, personality, emotion and memory. Govern motor control (motor cortex), speech production in the left lobe (Broca's area).
    - Damage- issues with reasoning, impulsivity
    - Phineas Gage- his frontal lobes were damaged
        - Incapable of making decisions
    - Within the Frontal Lobe- there is an area called ***Broca's Area***- damage to it causes difficulties in speech.
        - **Broca's Aphasia:** people have difficulties speaking, hard time forming speech. (they do understand language though). This is only in the left hemisphere.
            - Strokes can cause this issue. Can work with speech pathologists to fix this issue, with neuroplasticity (to regain function with old tissue)
    - ***Motor Cortex:*** controls all voluntary movement- behind the frontal lobes.

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- ***Parietal lobes:*** **Two lobes** at the top of the brain where bodily sensations are received and interpreted (somatosensory cortex)
    - Interpret bodily sensations. Touch, pain, sensation.
    - Help us understand where our body is.
    - Contains the ***somatosensory cortex-*** receives sensory images from throughout the body. Focused on processing those sensations
- ***Temporal Lobes:*** **Two lobes** on each side of the brain above the ears involved in audition (auditory cortex), language comprehension in left lobe (Wernicke's area), memory, and some emotional control
    - Responsible for hearing.
    - ***Auditory cortex*** is located in the temporal lobes IN BOTH HEMISPHERES. Get information from the sensory neurons in our ears, they process it and send the information to the parietal lobes.
    - **Left hemisphere** of the brain is known as Wernicke's area- he notes that people who had damage to this area, had a hard time understanding speech. They could speak quickly but it doesn't make sense
        - **Wernicke's Aphasia:** The inability to understand the meaning of words.
            - Comprehension is imparied, and reading and writing can also be severely impaired.
            - Can easily speak, but make no sense.
            - It is on a scale- can have severe aphasia, and less severe aphasia.
            - Sometimes can help by using non-verbal approaches
            - Happens from strokes usually.
- ***Occipital Lobes:*** **Two lobes** at the back of the brain responsible for vision (visual cortex) and visual perception
    - Has to do with vision and visual perception. Damage to this area could cause blindness. Even though the eyes and neural connections can be working perfectly fine, if this area of the brain is damaged it can cause visual issues.
    - We have a right and left visual cortex. Both of our eyes have a right visual field and a left visual field. When you cut the corpus colosseum, you lose some of the information from the right visual field.
- ***Association Areas:*** So-called quiet areas in the cerebral cortex involved in interpreting, integrating, and acting on information processed by other parts of the brain

Phineas Gage- damage to frontal cortex, caused personality changes.

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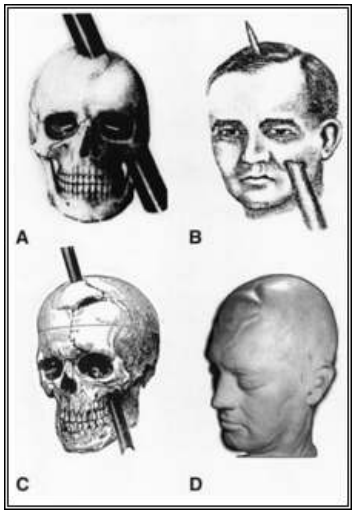

Visualizing your Motor and Somatosensory Cortex

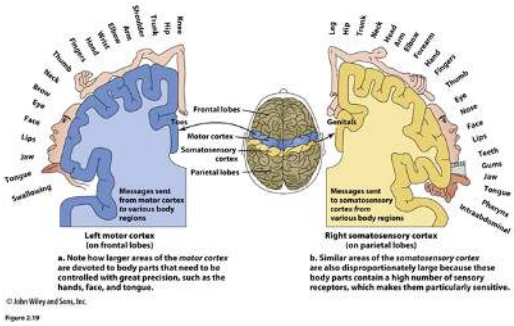
Frontal lobes
Motor cortex
Somatosensory cortex
Parietal lobes
Genitals
Messages sent from motor cortex to various body regions
Messages sent to somatosensory cortex from various body regions
Left motor cortex (on frontal lobes)
Right somatosensory cortex (on parietal lobes)
a. Note how larger areas of the motor cortex are devoted to body parts that need to be controlled with great precision, such as the hands, face, and tongue.
b. Similar areas of the somatosensory cortex are also disproportionately large because these body parts contain a high number of sensory receptors, which makes them particularly sensitive.
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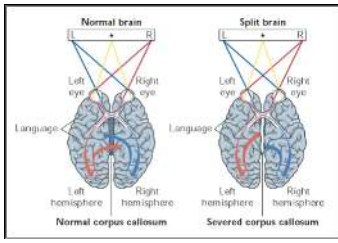
Figure 2.19

- We devote large areas of these cortes to areas that we need a lot of information from.
- A lot of motor neurons are needed to control the very precise areas of our body
- Sensory cortex- we devote a lot of our processing neurons to the areas of the body that take in a lot of sensations. Ex. the face, the tongue
- sensations- our body has to pick up these things, rather than us thinking about them.

A Tour Through The Brain: Split-Brain Research



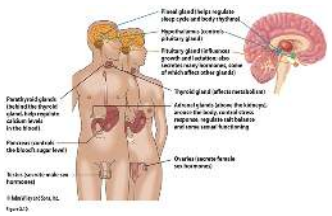
- Severing the corpus callosum, for medical reasons, also provides information on the role & functions of the left & right hemispheres.
  - Corpus colosseum- a lot of *nerves helps both sides of the brain communicate*
  - Epilepsy- sometimes doctors will *separate the corpus colosseum, to prevent a seizure from going from one hemisphere to the other*.
    - **Separating would decrease communication between the two sides of the brain**
    - We have a right and left visual cortex. Both of our eyes have a right visual field and a left visual field. When you cut the corpus colosseum, you lose some of the information from the right visual field.
    - **Left hemisphere= produce and comprehend language. So if you show something to the right visual field of a person and their corpus colosseum was cut, and ask them what they saw, they can't tell you because that information has not reached the verbal areas, but if you ask them to show you what they saw, they will be able to pick it up and show you.**

A Tour Through The Brain: Lateralization

- The left & right hemispheres specialize in particular (but often overlapping) operations.

The layout of our brain:

- **There is lateralization.**
- Both hemispheres tend to focus on something



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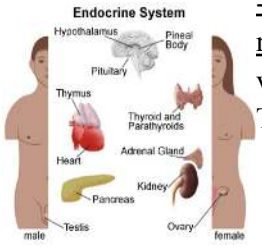
- left= language, analytic (figuring things out step by step- processing), controls right side of the body. The right visual field is in the left hemisphere in the left occipital lobe.



- Right hemisphere= synthetic: music, art, special manipulative skills, expression of emotion, facial recognition, synthesizing things. Controls the left side of the body. Left visual field is in the right visual cortex.

The **Endocrine System**

- **A collection of glands that manufacture & secrete hormones into the bloodstream**.
  A large network of glands that use hormones to communicate.
- Hormones: *chemicals manufactured by endocrine glands & circulated in the bloodstream to produce bodily changes or to maintain normal bodily function*.
- hormones have widespread effects.

- The endocrine system helps regulate long term processes- growth, sexual.
- it regulates processes like digestion and elimination.
- it regulates responses to emergencies. Fight or flight, your endocrine system gets triggered into action. Whether you need to release glucose or not.

Glands:
Thyroid gland- controls **metabolism**. Hypo- under active. Hyper- overactive. Hypo= slow metabolism. hyper= fast.
Master Gland: **Pituitary gland**- hormones **affect other glands in the body**
Thymus: produce **t-cells**, and it **shrinks with age**.
Adrenal glands: on top of kidneys, **helps the body respond to stress, adrenaline, cortisol** (if constantly under stress, will release this and can lead to issues). Involved in **regulating blood pressure**.
Pancreas: secretes **insulin** (blood sugar levels)- important in fight or flight response.
Ovaries and testies: release **estrogen** and **testosterone**, female and male sex.

- Birth control- the pill, the estrogen and progesterone in it travel throughout the body and can affect other tissue. Consider, do you want hormones traveling throughout the body? Maybe there are reasons why you shouldn't.
- IUD- intrauterine device. It is birth control- it is localized, and then less hormones travel throughout the body.

Our hormones are important, they regulate bodily functions and maintain it.

Why Do We Need Two Communication Systems--Neurotransmitters + Hormones?

- Differences:
  - **genetics= the code**
  - The nervous system and endocrine system= communicators, get messages out
    - neurotransmitters= individual emails, sending messages to specific receptors
    - hormones= is a global message to the body, everything gets the message even if it is not relevant.
      - Be careful regulating.

Chapter 4: Sensation and Perception:
Defining Sensation and Perception:

- Our brain gets messages from the work of our neurons, it must interpret the information.

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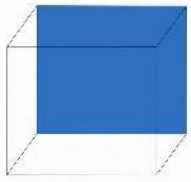
- We use our sensations and perceptions to build experiences.

Sensation:

- Sensation is the basic component or **building block of an experience** – patterns of light, tastes, changes in temperature, smells, etc. These are the fundamental components of an experience.
  - Includes our basic senses
  - Sour, sweet, hot, cold, smell of a skunk
    - Fundamental components of an experience

Perception:

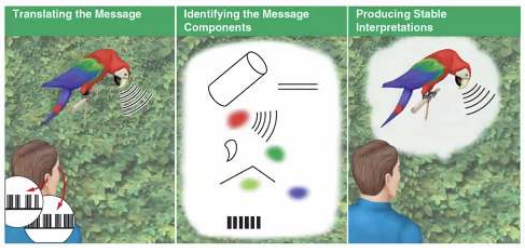
- Perception is the process by which **the brain organizes and meaningfully interprets sensory information**
- Perception takes the sensory input and interprets it to make sense of the world around us.
- Ex: touching and smelling a flower and perceiving it to be a rose. Perception is when our brain puts things together after we take in the sensations.

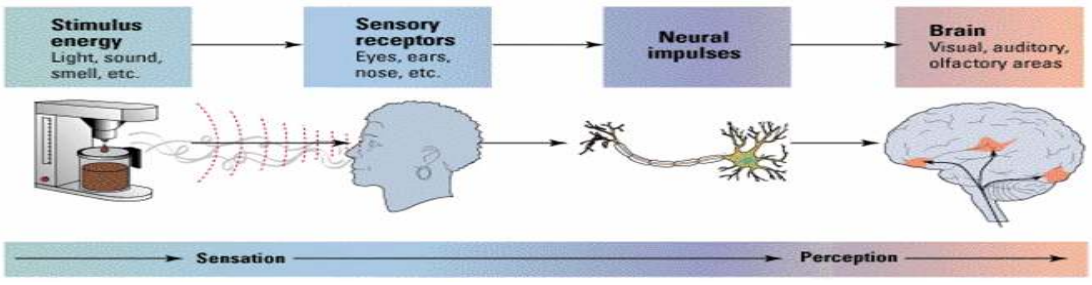


Necker Cube: *Where is the blue wall? Is it in the front? Is it in the back?*

- Colored surface can be either the outside front surface or the inside back surface
  - Cannot simultaneously be both
  - Brain can interpret the ambiguous cues two different ways
  - Sometimes what we see is not necessarily a faithful reflection of what is in front of us. What we see is an interpretation of what is in front of us
  - The brain can produce illusions.

Understanding Sensation & Perception

- *The brain needs to solve 3 key issues:*
  - **Translating** the incoming message
  - **Identifying** the key components of the message
  - Producing a stable **interpretation**
- 

- 

Sensation & Perception Processes

Vision Goals:

- How is light translated into the electrochemical language of the brain?
- How are the basic features of the visual message identified by the brain?

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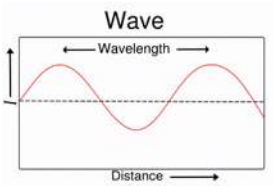
- How is a stable interpretation of this information created and why does this process sometimes produce visual illusions?



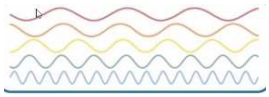
Vision:

- Visible light is one part of the electromagnetic spectrum
- <u>Light is classified by 3 main properties:</u>
  - **Wavelength-** physical distance from one cycle to the next
  - **Intensity** (amplitude / brightness)- the amount of light that is falling on an object
  - **Purity-** the mix of wavelengths, which influences the saturation/richness of the colors we are seeing.

What We See:

We pick up <u>Hue:</u>

- The <u>dimension of light that produces color</u>; changes in the wavelength of light result in changes in color observed. **Hue = changes in the wavelengths**



  - Shorter wavelengths= violet or blue
  - Longer wavelengths= red
  - Medium wavelengths= yellows and greens

<u>Brightness:</u> (Amplitude)

- The aspect of **visual experience that changes with light intensity**, the amount of light falling on an object; as intensity increases perceived brightness increases

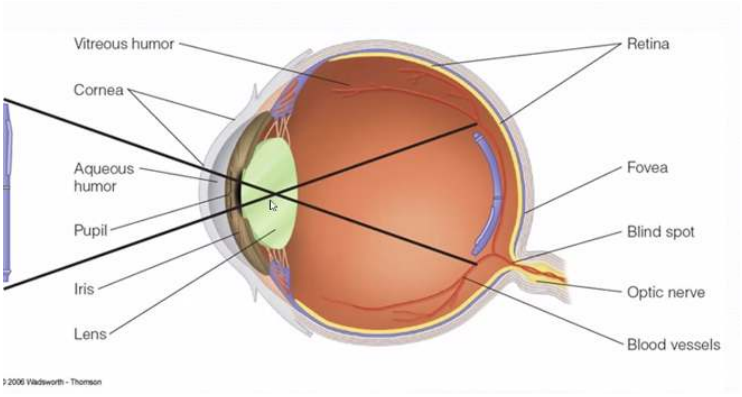
<u>Purity:</u>

- Is determined by mixed wavelengths that **influence saturation** or richness of perceived colors
- If all wavelengths are
- If the wavelengths mix, then they will give off different colors, pink, yellowish red, it is less pure. *The more mixing of wavelengths- less pure*.

<u>Transduction:</u> **translation process**. Light that enters the eye goes through transduction. Wavelengths are translated into the internal language of the brain: electrical and chemical.

<u>Saturation:</u> How much of the wavelength we have at each peak.

Eye Structure



Processing in the Retina

- <u>Cornea-</u> **protects** the eye and bends the light towards the eye.
- <u>Pupil and iris--</u> **opens and closes**, **moderating** how much light comes into the eye.

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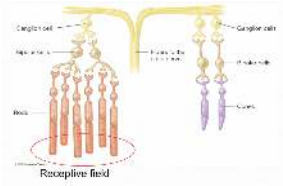
- Lens- is flexible so we can focus things on the retina. Accommodation- (how much light can come in) the lens becomes less flexible and its ability to accommodate becomes imparied, and that is why people need bifocals.
- Retina-- **thin tissue that contains light receptor cells**.
- Rod and cone cells **pass information to bipolar cells, then to ganglion cells**
- Cones-- located in the fovea- **color visions, receptors in the center of the retina, need a lot of light. Pick up primarily color and very fine details.** We have around 6 million cones, but we have many more rods.
- Rods-- great for **low light vision**.
- Blind spot-- **point where the optic nerve is hedging into the brain, No receptors there.**



- Light stimulates the rods and cones which then goes through a certain pathway. Go from rods to bipolar cells and then pass light to ganglion cells. More light received by the ganglion receptive field, the more neural signals it sends to the brain. The leads to more action potential and the firing of neurons.
- Ganglion cells have receptive fields, meaning:
    - Input received from a number of other cellsx
    - Responds only to a particular pattern
- Many have center-surround fields
        - Respond to light in middle, not on periphery, of receptive field

How well do you see at night? We are not built to see at night. Other animals have many more rods and can see better at night. We need light to stimulate rods and cones.

Dark Adaptation- takes about 20 minutes: Process through which the eye adjusts to dim light

- Cones
    - Adapt within 8 minutes to max sensitivity
        - **From light room to dark room we need to regenerate cones.**
- Rods- we become more sensitive to levels of light
    - Continue to adapt for up to 25 minutes
- Bright light breaks down our photo pigments and we need to replenish them.
- We have a lot more rods than cones so we have lots of receptors to help us when we are in areas of low light.
- Patterns are important- certain parts of the brain are primed to pick up certain patterns.

Higher Level Feature Detection

- Some eye **feature detectors** respond to more complex patterns, such as corners, moving bars, bars of certain length, lines at different angles, these cells will respond to particular stimuli.
- Researchers can see which cells are active.
- We have feature detectors that respond to faces.
    - Some respond to faces only
        - In humans, certain forms of brain damage such as strokes can cause prosopagnosia (inability to recognize faces)

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- Using fMRIs- they have shown that there are regions in the cortex that become very active when they see faces. Map visual pathways of the brain and pick out which areas of the brain are involved in vision.
- With people who have prosopagnosia the area is less active.

- Other parts of the brain specialized to handle other aspects of vision, such as motion

Producing Stable Interpretations

- **Perception depends on context, expectations as well as sensory messages. We perceive whole things-- complex combinations.**
  - Bottom-up processing: processing **starts with the actual physical message.** We look at the shape, the angels, projections, color, texture.
  - Top-down processing: process **starts with our knowledge, beliefs, and expectations about the world used to interpret and organize what we see**. Our experiences in the world that take the physical characteristics we see and say this is a table or this is a desk etc. If we had never seen this item before, we would not be able to say what the item is, but we could still do the bottom up processing.
  - *Top-down + bottom-up processing = perception.* We need both to produce a stable interpretation of the world.

→ woman; or a man with a saxophone.

→ Depending on our expectations, we can see different things in ambiguous images.

→ ABC…

We decide based on what we see in the middle

→ 12, 13, 14…

- **Inborn tendencies to group visual information in certain ways**
- For example we naturally separate visual input into **figure & ground**.
  - Can be easy or difficult, depending if the visual cues are strong enough to guide you.

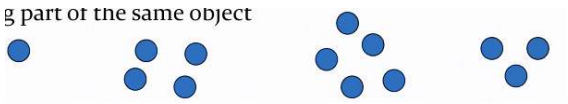
→ visual cues aren't strong, see a sheep, or a dog…

  - Gestalt principles of organization
  - We all take in the same visual stimuli, but then are broken down by our own top down processing, and we all take it in differently because of different experiences.

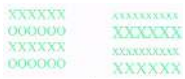
Laws of Visual Organization: ***Gestalt Principles***

- Gestalt psychologists take visual organization and apply principles for it.

1. **Proximity:** Elements that are close to each other seen as being part of the same object



2. **Similarity**: Items sharing physical properties are put into the same set→
   We have a visual tendency to see them as x's horizontally or vertically xoxo



3. **Closure**: Figures with gaps or small missing parts of the border are seen as complete
   We close the gaps, we recognize the left one as a square, the right one we see 3 circles and a triangle.

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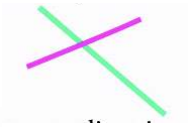
4. **Good continuation**: Lines that are interrupted are seen as continuously flowing
   We see the lines crossing over, not breaking. We see the green continuing under the pink.
5. **Common fate**: Things moving in the same direction are seen as a group ex: birds flying together.



Object Recognition

- Recognition by **components theory** (Biederman):
- *Objects broken down into simple geometrical forms* (**geons**) before identifying the whole object.
  Geons are the alphabet of visual recognition.
- Proposed 36 geons in total
- Easy to identify incomplete or degraded objects this way as long as we pick up on these geons.
- Evidence: Fast, easy recognition of degraded objects as long as geons easily visible
  - We see people's faces as a whole, not just by one thing.
  - Most likely, our brain approaches object recognition with multiple pathways. There is more than one system that helps us understand what we see

Linking our Senses

- All of our senses are closely linked and work together with one another to produce the perceptions that we experience.
- There are specialized cells for processing and interpreting this info
- You close your eyes when you don't like the thing you are eating but you have to have it.
- Vision vs what you are eating: Vision and the poop study: a group had chocolate, in a standard chocolate bar, they loved it. Then they gave them chocolate that was shaped like poop. The same chocolate but in that shape. What did the people say? They said it tasted bad. But it's the same piece of chocolate… our senses tied together.
  - Vision affected how we processed our taste.

Sensory Adaptation

- Sensory adaptation: Tendency of sensory systems to **reduce sensitivity to a stimulus source that remains constant**
  - Example: Get used to pool temperature
  - Devote processing ability to when things change
  - If sensory adaptation did not occur- you would constantly pick up things.
  - We are designed to detect changes and reduce sensitivity.
  - We do not need to continuously respond to unimportant information
  - Problem for people who are unable to adapt...

Building the World of Experience

- Multiple sensory systems help us navigate the world which translate and identify stimuli which then are transformed into stable and lasting interpretations of the stimuli received
- As we have seen with the visual system, specialized cells detect and transmit information to the brain which uses inborn organizational rules as well as our beliefs, culture, emotions and experiences to build our ultimate perceptions of the world.
- Errors in these pathways and interpretations can be involved in psychopathology

Chapter 5: The Psychology of Human Development

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Six Things Not to Say to a Developmental Psychologist: It is a lot more than playing with children.

- You must love children! it is really about the entire lifespan of a person, not just childhood. Starts prenatal and goes into adulthood.
- Can you give me parenting advice?
- It must be fun to play with kids all day!
- So are we born this way or is it our parents' fault? We are really a product of both-- nature and nurture.
- Our time as a baby is most important right? Every period of life is important.
    - Critical period of development-- has a beginning and an end. After that period ends, it may not be possible to develop in that specific area. Ex: damage to the fetus's development while a woman is pregnant. Visions in babies is part of this-- after 3 years of age it does not develop anymore.
    - Sensitive periods-- begin and end gradually. Ex: learning language. Most sensitive between ages 3 and 7, but we can learn languages even after this age.
- Why bother studying development? Aren't we all the same? Not exactly.

Why Study Development?

- To understand human nature-- we want to understand people throughout life. Cognitive development-- how we process and think is very important.
- To foster positive development and well-being. What is dysfunctional and what is healthy? How can we adapt after traumatic experiences? We want to understand how people can change and grow.
- Developmental psychology focuses on the life span, particularly early life development as well as aging

Chapter 9: Prenatal Development:

Physical Development - Prenatal period (266 days approx)

3 stages of prenatal development:

- **Germinal (approx 2 weeks)**
    - 2 weeks from conception to implantation. Fertilized egg (zygote) will travel and plant in the uterus. Most fertilized eggs do not implant in the uterus for a variety of reasons. Once it implants… embryonic
    - Most don't travel. And then nothing comes of it, you don't realize you are pregnant, (genetic issues, or the uterus wall is not suited for pregnancy.)
- **Embryonic (approx 6 wks)**
    - Cluster of cells→ a more recognizable fetus. 7-8 weeks sexual differentiation occurs. Y-chromosome will bring testosterone. If there is no Y chromosome you will see estrogen and female characteristics. If it is XY, for some reason sometimes no testosterone will not be produced, and will develop female characteristics. This is rare, but it does happen.
        - If you look at the fetuses they (embryos) tend to look similar to animals. Until more genetic expressions, and take on the expression of a human.
- **Fetal (9th week- birth)**
    - Bone and muscles are developing, movements, periods of tremendous growth and development, especially the brain. Fetus may be born prematurely, and may not have completed their growth. Premature babies need a lot of medical support.

Prenatal Developmental Hazards:

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Things that can affect it…

- Genetic factors may impact normal development of fetus, i.e. Down Syndrome
    - An embryo can develop from an egg that has abnormal chromosomes, that resulted from errors in cell division in the sex cells. When ova is forming.
    - Ex. down syndrome. Can result when someone has a full or extra copy of cell chromosome 21. This occurred during sex cell division in the ova. This results in a lot of physical changes. It can affect cognitive functioning, growth, and facial formation. Greater risk of this happening when maternal age is higher than 35, but can occur at ages less than that.
- Environmental agents: also called **teratogens**, can damage a developing fetus
    - Key teratogens – alcohol, drugs (even prescription medications), smoking, viruses
        - All can affect development
        - Ex. german measles. If the mother contracts it while pregnant, then the virus will pass through the placenta to the fetus. If it goes to the heart at the 6th week, it will result in heart defects in the fetus.
        - Ex. alcohol- overconsumption, can contribute to fetal alcohol syndrome. It can affect facial structure (facial deformities), can reduce size of brain structure, and increase risk of intellectual disabilities.
        - Ex. smoking- can increase risk of miscarriage, premature birht, underweight babies, syds (sudden infant death syndrome- unknown reason for death), cleft pallates- the chemicals in the cigarettes can cross the placenta barrier, and affects the brain.
        - Ex. drugs- babies being born addicted, and goes through terrible withdrawals after birth. Exposure from the chemicals can cause defects, premature birth, brain damage, still birth, underweight babies, mental delays, cognitive delays can occur after birth.
        - Ex. medication- why we have warning guidelines- not to use specific medicines during pregnancy.
            - In the 1950's drug thalidomide was prescribed to ease morning sickness. It made it easier for pregnant mothers. It resulted in thalidomide babies- born missing limbs, and had stumps, had deformities in their hearts, eyes, urinary tract… they were exposed to this medicine, and they had disruptive development. Survival of these children was low.

Physical Growth Infant - Toddler:

- From birth to 2 years of age child grows tremendously and brain experiences **dramatic** growth
    - *There is a lot of change from infancy to 2 years of age.*

During this period of time:

- **Neurons in the brain grow in size and complexity, particularly in enriched environments**
    - Connections develop, neurons connect.
    - This is why this period of time is important in terms of having an enriched environment. It has a great deal of social contact, and stimulation- a lot of learning interactions. This will help them develop. Meet the goals, or surpass them.
        - This is why we have childhood programs- head start programs. It is important to support children as early as possible.

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        - We know children who are deprived, and who were neglected (or in orphanages), they have developmental delays and psychological issues (trauma from neglect)
        - Language is also developing. Infant brains are wired to learn language. Even deaf infants will vocalize, but for hearing children they will start to mimic what the parent is saying. They will start to speak one to two words… even with a few words they will use gestures to communicate.
        - Most children develop at the same rate, and follow a predictable and stable rate. Babies don't go from holding their head up to walking. They go through the process. They need to mature neurologically and their muscles need to strengthen.
- **Motor skills develop**
    - hold up head, roll over, crawl, stand, walk
- **Nature & nurture account for developmental differences**
    - Physical development may be faster and better if growing up on a farm. Vs a child growing up in an apartment building.
    - It can speed or impede the process.

Physical Growth Toddler - Adolescence:

- **From about 2 years of age to puberty growth continues although not as quickly as before**
    - Not as dramatic of change. It is slower. Height and weight increase.
- **Hand-eye coordination matures**
    - Coming to adult levels. Peak at 20's.
- **Brain processing speed increases tremendously**
    - Environment helps develop your brain and make it grow- school.
- **Adolescence begins around 11-13 during which there is a growth spurt and puberty begins**
    - Puberty is the onset of sexual maturity
    - Children mature sexually and will be able to reproduce.
        - Female- hips broaden, breasts, menstruation
        - Male- growing hair, facial hair, voice changing, they gain the ability to have children.
        - Once menstruation starts, you have a risk of pregnancy.
        - Average age of menstruation has been decreasing. Was at 13/14, now we see it develop as young as 9. Brings psychological and emotional issues- developing before peers.
        - Happens because of nutrition, environment, healthy, doctors, exposure to more levels of estrogen
- Language development is improving tremendously.

Physical Growth – Adulthood & Aging:

No clear cut point between adolescence and adulthood. It is an artificial point.

18 in the U.S. is considered an adult. You are liable for the things you do.

Religious ceremonies. Celebrations.

- The transition between adolescence and adulthood can vary across cultures
- Many cultures have coming of age ceremonies and you take on roles of becoming an adult (aumish)
- Physical maturity & prowess is at its height by our 20's

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    - Physical maturity is at best in your 20s and after that it starts to slowly decline
- **Cognitive function is also changing over time**
    - It can vary how good your cognitive function is
- **Healthy body healthy mind**
- **Women about the age of 50 start experiences menopause**
    - Some cognitive functions are changing and physical things change too
    - Symptoms can last for many years.
        - Will vary from person to person
- **Mental functioning can change with aging**
- **You can do some things to strengthen your mental activity**
    - Social interactions are very important
    - health is also very important (eat healthy food)
    - physical activity is very important too
    - learning new things or things that challenge the mind keep the brain going
    - anything outside of what you typically do
    - Depression and anxiety treatment help a lot too
- Decline is slow and steady across virtually all physical functions but does vary among individuals
- As we age significant physical changes occur in the brain as well, for some seriously resulting in **dementia**
    - **More major loss of mental functioning. Loss of… memory, focus, concentration.** By sustaining mental activity, it can counter the normal declining mental skills and can delay the decline. Learning new hobbies, problem solving, puzzles, maintaining social activity, all stimulates the brain. Keep activite, socially mentally and healthily.

Conducting Developmental Research: Developmental Psychologists can use…
Developmental Research can be challenging. It takes many years to study. How can you communicate with babies and children?

- Self-reports: interview, questionnaires, tests
    - There is a measure of bias with self-reports. You as a researcher and what people will tell you. Even if you are not an older adult, can you tell me every detail about what you did last Wednesday?
        - Even with these things, they can still be used.
- Behavioral Observations
    - Observe things as they happen in real life but you don't have control over what you observing
- Naturalistic
    - Advantage: natural setting
    - Disadvantage: conditions not controlled
    - Observing kids in school, adults in nursing homes. See behaviors in their place of action. can’t control the environment.
- Structured (Lab)
    - Disadvantage: cannot generalize to natural settings
    - Advantage: conditions controlled
    - Mary

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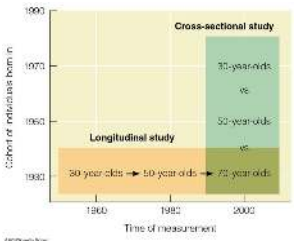
- Piaget stages of development- were structured lab research. Can sometimes be an issue to generalize. But you are controlling extraneous conditions, and less likely to impact the child's behavior when dont have the interruption in the classroom.
- Always acknowledge positives and negatives in the way you research.
- In a laboratory you can control what is happening and who is visiting
- But it's like a fake classroom which could also affect things

Developmental Research Designs:



- **Cross-Sectional Designs-** test one time many different groups of people.
  - 1 or more cohorts or age-groups studied
  - 1 time of testing
  - Studying age differences at any one time
  - Can make that statement generalized. Social experiences could confound the results.
- **Longitudinal Designs-** over the course of many years… test a specific person or specific group, multiple times
  - 1 cohort
  - More than 1 time of testing
  - Study changes across time in one cohort
  - Drawback- it is very expensive, and time consuming

Always acknowledge the positives and challenges.

KEY FIGURES IN DEVELOPMENTAL PSYCHOLOGY:

- ***Piaget***
- ***Vygotsky***
- ***Kohlberg***
- ***Ainsworth- attachment theory***
- ***Bowlby- attachment theory***
- ***Harlow***
- ***Erikson***

Piaget: Development Theory (1936): from switzerland. Child cognitive development.

Believed that children think differently than adults.

Was believed in the past that children were like adults but lacked experience. But he says this is not the case

- Children think very differently than adults and that children are not mini adults
- We are born with a way to organize in 2 schemata. Children's are not very accurate, but it's possible that with learning and development they can become more accurate. Progress needs biological development and experience.
  - Schemas- knowing what things are : preconceived notions
  - Children's schemas are not correct
- Intelligence: Ability to adapt to environment
  - Did not believe that intelligence is fixed
  - Better able to adapt= more intelligent.
- Interactionist
  - Both biological maturation and experience required for progress

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- **Constructivism:** knowledge and meaning are formed (constructed) from experience through **assimilation** and **accommodation**.
- Assimilation-- **incorporating new experiences with the old.** Any time you see any furry 4 legged thing you think it is a dog.
- accommodation -- **When you learn and change your schemas**, matching the fury 4 legged animals to what they are.
- A child learns that a furry creature with four legs is a dog, it is a schema. Now they see a cat, and they say dog… they took the new experience and put it into an existing schema= **assimilation**. Parent, says no. It is a cat and points out it's differences. And now **accommodation** will happen, it is the process where we change or modify our existing schema to our new experiences. We reframe our expectations.
- At each new stage, children think in a qualitatively different way
    - ***Four stages of cognitive development***
        - Sensorimotor stage (birth to 2)
            - Grabbing things, pointing, putting things on mouth
            - Don't understand things still exist when things aren't there
        - Preoperational (2-7)
            - Imagination is developing
            - Child starts going to school so that's involved
            - Egocentrism- focuses on themselves
        - Concrete operational (7-11)- logical thinking, understands conservation
        - Formal operations (11-12)
            - Can plan and hypothesize
            - Abstract thinking- can follow hypothesis even if they don't make sense.

Table 2.3 Jean Piaget's Four Stages of Cognitive Development

Stage (Age Range)	Description
Sensorimotor (birth to 2 years)	Infants use their senses and motor actions to explore and understand the world. At the start they have only innate reflexes, but they develop increasingly "intelligent" actions. By the end, they are capable of symbolic thought using images or words and can therefore plan solutions to problems mentally.
Preoperational (2 to 7 years)	Preschoolers use their capacity for symbolic thought to develop language, engage in pretend play, and solve problems. But their thinking is not yet logical; they are egocentric (unable to take others' perspectives) and are easily fooled by perceptions because they cannot rely on logical operations.
Concrete operations (7 to 11 years)	School-age children acquire concrete logical operations that allow them to mentally classify, add, and otherwise act on concrete objects in their heads. They can solve practical, real-world problems through a trial-and-error approach but have difficulty with hypothetical and abstract problems.
Formal operations (11 to 12 years or older)	Adolescents can think about abstract concepts and purely hypothetical possibilities and can trace the long-range consequences of possible actions. With age and experience, they can form hypotheses and systematically test them using the scientific method.

- Children at a young age, learn from putting things in their mouths. As physically developing they can do more things and learn new things. Key thing in this period of thinking is that infants do not yet understand the concept of **object permanence-** they don't understand that things exist when they are no longer in front of them. This is a thinking error. As the child matures, when mom leaves the room they know that she still exists.

- Pre-operational period- **imagination is developing but thinking is not yet logical.** 2 issues. ***1) children do not understand conservation-*** they don't understand that the physical properties of an object stay the same even if the shape changes. They will say that a cylinder is bigger than a ball. ***2) they are egocentric.***

They can't yet engage in abstract thinking, but they are logical. Concrete and operational is a gradual process.

Piaget was influential in education- how and where to teach children.

Most developmental psychologists- cognitive is continual change

We need to understand a person within their culture and society. Cultural differences exist and they are important when focusing on development in children.

Learning for children- **zone of proximal development- includes what a child can learn on it's own and what they can accomplish with the support of their social interactions** (parents and more capable peers).

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zone of proximal development- what you ultimately accomplish and what you learn best, is what affects you. And help you develop the best.

Lev Vygotsky (1934): (attach to environment around them)

- Must understand the individual in his or her **social context**, not just as an individual. We cannot just detach a person from what is going on around them.
- Intellectual development grows from a person's attempts to master social interaction
- The environment (particularly adults) will influence what a child thinks about and how they think
- Learning for children- zone of proximal development- includes what a child can learn on it's own and what they can accomplish with the support of their social interactions (parents and more capable peers).
    - *Zone of proximal development- learning occurs here-* what the child can achieve on his/her own, plus what they can achieve through interaction with parents, children, adn friends, will help them develop further.
- Learning varies across cultures vs. Piaget's stages are universal across cultures
- Vygotsky died young and he couldn't expand on his ideas.

Lawrence Kohlberg & the Stage Theory of Moral Development:

- Would ask the people he was testing to solve moral dilemmas and ask how they came to this conclusion. Research conducted on men and boys. He was criticized for this.
- **Moral test:** a husband has a wife with a rare and deadly form of cancer, expensive medication that exists but the husband cannot afford, pharmacists will not sell it for a lesser price. Should the husband steal the drug or not?
- **Morality –** the ability to distinguish between appropriate and inappropriate actions.
- *Kohlberg believed that people proceed through stages of moral development*
- Proposed 3 main levels of moral reasoning development:
    - **Preconventional--** decisions based on what is right and wrong based on what is going to happen to you. Based on reward and punishment. Should steal drugs because he will go to jail or should steal it because others will get mad at him for letting wife die. This is where kids generally lie in their decision making.
    - **Conventional--** making decisions based on internalized rules. I will not steal it because the law says I should not steal. An action is right or wrong depending on if it maintains social order. Or, he should steal it because a husband is obligated to protect his wife. What would you do if you were a good person? That is the question someone with conventional
    - **Postconventional--** based on abstract standards. Saving a human life is more important than following a rule. Gaining civil rights is more important than not being violent. This is very difficult for people to achieve. Kohlberg felt women never achieved this type of thinking.
-

Mary Ainsworth, John Bowlby and Harry Harlow Attachment Theory:

- Infants form strong emotional bonds with caretakers in order to survive. Babies rely on parents, especially the mother, in order to survive.
- Attachments are so critical that it is believed that they are "hard-wired"

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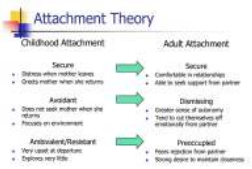
- Caregivers and infants are programmed to respond to certain signals with attachment behavior.
- **Bowlby:**
    - studied the importance of a child's relationship with the mother in terms of social, emotional and cognitive development.
    - This bonding and attachment behavior of babies is **innate**. They imitate caregivers' facial expressions.
    - Child forms one primary attachment for security and comfort. Time between 0 and 5 years of age is a critical period (particular start and finish after which you are unlikely to develop that characteristic) of developing attachment. Without developing these attachments, the child will be underdeveloped.
- **Harlow:**
    - focused on research with baby rhesus monkeys. Animal research as a model for human behavior.
    - Infants form an attachment with the caregiver that feeds them. Harlow, however, believed the attachments form from tactile acts by the mother. It is about comforting touch.
    - How do the monkey babies bond with their mothers? Lack of attachment can be very damaging. He raised baby monkeys in isolation and saw very strange behavior. Then tried to raise baby monkeys with surrogate mothers-- made of wire vs.made of towel. Both mothers could provide milk, but what he saw was that the monkeys spent more time with the cloth covered monkey even if she did not provide milk. Yes, food is important, but tactile comfort seems to also be part of developing emotional attachment. These monkeys had problems interacting with other monkeys as well. Ultimately, social deprivation rather than just maternal deprivation affects the behavior of monkeys. **Disagrees with Bowlby**. Having a community with social interaction is crucial for development. Maybe women's roles are not so rigid. There are other ways for a child to develop in a healthy way besides with the mother being home all the time.
- **Mary Ainsworth:**
    - She is a student of Bowlby.
    - Studied individual differences in attachment developing the assessment technique – **"Strange Situation**"– to investigate these differences in children.
    - Developmental research conducted in the lab. Set up a room with one way glass so researchers could watch behavior of the infant. She was looking for how the infants behaved towards mother and stranger in various scenarios. Mother, researcher, and baby. What happens when a baby is left with a stranger? When mother comes back? Baby is alone etc. They would look at proximity and contact seeking of the baby towards the various people. Does the infant maintain contact? Avoid contact with mother?

The Strange Situation:

- Attachment Styles - Ainsworth:
    - Identified 3 major forms of attachment:



    - **Secure attachment--** infant experiences distress when separated from caregiver, but they are easily comforted by their caregiver. Strangers cannot comfort them. They know the caregivers come back, so they are able to depend on and trust the

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caregiver. As an adult this translates into being able to have trusting relationships with others. Support others and are supported by others. This is very healthy.

- **Ambivalent attachment--** insecure attachment style. When a caregiver leaves, the baby becomes hysterical, and even when the mother comes back, it would take forever for the baby to calm down. Infant hovers around the mother when the mother is in the room. They cannot depend on the caregiver to be there for them in a time of need. This is like a parent who is sometimes supported, but sometimes neglectful. This can lead to clingy and possessive behaviors. If the relationship ends, this will devastate the person with insecure attachment and will always be thinking of ways to get the person back.
- **Avoidant attachment--** infant avoids the caregivers, mother and stranger. When the mother leaves the room, the baby gets upset, but it does not matter if the mother or stranger is the one comforting them. Someone might develop this attachment as a result of neglectful parents who leave their child alone for long periods of time. Not attached to any particular caregiver. This type of person can be very independent and distrusting of others. Intimacy is uncomfortable and anxiety provoking. Ending relationships is not really a problem for someone with avoidant attachment. When people are clingy to them, the avoidant person runs. These people emotionally cut themselves off from others. This type of person would need someone with a secure attachment style.

Table 2.2 The Stage Theories of Freud and Erikson

Erikson's Psychosocial Theory

Stage (Age Range)	Description
Trust vs. mistrust (birth to 1 year)	Infants must learn to trust their caregivers to meet their needs. Responsive parenting is critical.
Autonomy vs. shame and doubt (1 to 3 years)	Children must learn to be autonomous—to assert their wills and do things for themselves—or they will doubt their abilities.
Initiative vs. guilt (3 to 6 years)	Preschoolers develop initiative by devising and carrying out bold plans, but they must learn not to impinge on the rights of others.
Industry vs. inferiority (6 to 12 years)	Children must master important social and academic skills and keep up with their peers; otherwise, they will feel inferior.
Identity vs. role confusion (12 to 20 years)	Adolescents ask who they are and must establish social and vocational identities; otherwise, they will remain confused about the roles they should play as adults.
Intimacy vs. isolation (20 to 40 years)	Young adults seek to form a shared identity with another person but may fear intimacy and experience loneliness and isolation.
Generativity vs. stagnation (40 to 65 years)	Middle-aged adults must feel that they are producing something that will outlive them, either as parents or as workers; otherwise, they will become stagnant and self-centered.
Integrity vs. despair (65 years and older)	Older adults must come to view their lives as meaningful to face death without worries and regrets.

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Erik Erikson:

- Proposed an 8 stage psychoanalytic theory of development. These stages go from birth to old age. Less emphasis on sexual urges, and instead focuses on our ability to change throughout our lifespan. Each time a stage is completed, you can move onto the next one.
  - Some differences with Freud
    - Less emphasis on sexual/aggressive urges
    - More emphasis on rational ego
    - More positive and adaptive view of human nature
    - Believed development continues through adulthood to build a comprehensive and integrated set of life skills
    - "Life does not make sense without interdependence. We need each other and the sooner we learn that, the better for us all." -Erikson

Stage Theories of Erikson:

1. **Trust vs mistrust (first year)t→** infant must learn is the world a safe place by looking to the parent to resolve this uncertainty? Neglectful parenting leads to child developing mistrust.
2. **Autonomy vs shame (1 to 3 years)→** children developing independence and parents should encourage this security in their abilities.
3. **Initiative vs guilt (3 to 6 years) →** children are learning to get along with others. Take initiative, but don't be pushy. They learn self control and sharing and guilt if they do something wrong.
4. **Industry vs inferiority (6 to 12) →** teachers are very influential in this period. It is crucial to support children, especially when they are struggling.

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5. **Identity vs role confusion (12 to 20)** → exploring personal values and what you stand for. Very important to establish your sense of self. Identity crisis is characteristic of this period. Without identifying your identity, you will feel very vulnerable.
6. **Intimacy vs isolation (20 to 40)** → you guide your own life and what you will do with your life. Exploring relationships-- jobs, romantic, long term commitments.
7. **Generativity vs Stagnation (40 to 65)** → midlife crisis. Does my life have meaning? Feeling you are producing something that will outlive you.
8. **Identity vs despair (65+)** → facing death and not wanting to worry or regret things.

- Psychologists argue for or against all of these theories.

Chapter 6:

Learning:

- Learning is how we change our behavior due to our experiences or as a result of practice.
    - Behavior that result from changes and practices
        - These affect our future.
- **Behaviorism** is the *psychological approach which emphasizes scientific and objective methods of investigating behavior. We respond to stimuli in very specific ways.*
    - The behaviors that we learn with the environment
    - Learning is flexible
    - Behaviorism- born from John Watson, he took it and applied it to humans and tried to shape behaviors.
    - We learn from learning, conditioning, observing others (Bandura)

Basic Terminology:

The key terms of learning are:

- Stimulus
- Response- depends on what the rewards and punishments are
- Conditioning
- Reinforcement
- Modeling

How do we learn?

Learning helps us navigate life

- Conditioning is the process of learning associations.
    - We learn through forming associations.
    - We connect experiences with expectations
        - We want to predict the future.
- Scientific study of simple associations began in the early 1900s with **Ivan Pavlov**
    - **He was studying digestion, and not learning. But something went wrong.**

Associative Learning:

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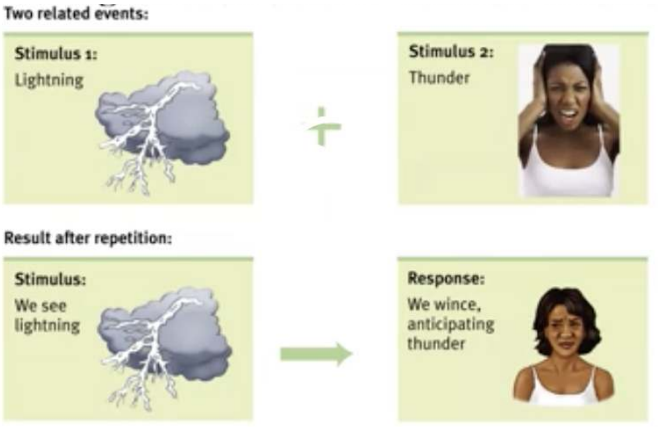
- Learning to associate one stimulus with another

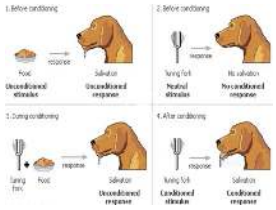


the more you see lightning, the more you react. We learn the association. That is classical conditioning.

- **Operant Conditioning= training, through reinforcements and punishments**

Classical Conditioning:

- Ivan Pavlov is often referred to as the **father of Classical Conditioning.**
  - Developed procedures on how to investigate associations and how they formed.
  - Investigated from **dog salivating**.
    - He wanted to study it.
- Classical conditioning is a set of procedures used to investigate how associations are formed between stimuli to produce a learned response
- **Unconditioned Stimulus (US) -**The stimulus that triggers an unlearned response, **automatic**.
  - Food is the US in Pavlov's experiment.
- **Unconditioned Response (UR) –** an observable response produced automatically prior to training.
    - **Response that occurs automatically.**
  - Salivation is the unlearned response to food (US) in Pavlov's experiment.
  - That isn't normal for the plate to make the dog salivate. Pavlov believed there is a conditioned stimulus.
- **Conditioned Stimulus (CS)** - A neutral stimulus that triggers a learned response. i.e.
  - The footsteps were a CS because the dogs learned to salivate at the sound of the steps as opposed to food.
    - Pavlov pairs the bell and food. They are associated with each other. Now the bell is the conditioned stimulus. Beforehand, ringing the bell did not cause salivation.
    - The more you repeat ringing the bell the more the dog learns it and salivates.
      - The dog salivating is the conditioned response ↓



- **Conditioned Response (CR) –** The response that is learned ("conditioned")
    - Behavior that is learned
  - i.e. Pavlov's dogs learned to salivate upon the presence of a ringing tone.

Classical Conditioning: Forming the CS-US Connection:

- Two key factors are needed for an effective association to form:

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- **Timing** the relationship between the conditioned stimulus and unconditioned stimulus
    - The conditioned stimulus needs to be placed before the unconditioned stimulus, otherwise no learning or little learning will occur.
        - Ring the bell, within a minute, put the food down.
- **Informativeness** of the conditioned stimulus
    - If you trained the dogs, then you ring the bell, then they salivate. If you decide to ring the bell and shine a light with it the dogs won't salivate. Because shining the light won't inform them that food is coming, it doesn't give new information. If you want to connect the two, then shine the light first then ring the bell then give the food and if you repeat it a number of times (**second order conditioning**), then you can shine the light and the dog will start salivating. A second level of conditioning has been added on.

Major Phenomena of Classical Conditioning:

- Generalization
- Discrimination
- Acquisition
- Extinction
- Spontaneous Recovery

Phenomena of Classical Conditioning:

- Generalization→ response to a new stimulus in a similar way to the response produced by an established stimulus. Example – Little Albert
    - John Watson, he believed he could train anyone to be whatever he wanted because we are blank slates.. Baby = Little Albert. He played with animals and loved little white rats everytime the baby was near a white rat he would hit a hammer in the back and make a loud noise and it would scare the baby. So the baby after a while when he saw the white rat he cried and tried to go away from it. Now they bring a bunny, and a fur coat, and the baby starts crying and running away. This is a generalization. The baby now has generalized his learned fear. Now he generalized his fear to something fluffy and white.
- Discrimination→ the response to a new stimulus is different from the response to the original stimulus. You know the difference between two stimuli
        - Little Albert was scared of little white things, but when they put a block of wood in his crib he didn't cry. That is discrimination -- responding to a new stimulus diff bc there is no association with it yet.
- Acquisition → conditioned responding becomes stronger with repeated CS-US pairings
    - He learned the fear of white rats
    - The more they banged to make a loud noise with the white rat, the connection became stronger.

Phenomena of Classical Conditioning:

- Extinction - The diminishing of a conditioned response that occurs when an unconditioned stimulus does not follow a conditioned stimulus.
    - Over time, they presented the baby with white furry things but no loud noise, the connection faded away.
    - Dogs too, no more bells, the dog wouldn't salivate from a random ring of a bell.
- Spontaneous recovery - the reappearance, after a pause, of an extinguished conditioned response.

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- Little Albert, the fear can occasionally pop back. If he saw a white thing and loud noise at the same time.
- Classical conditioning is a key way organisms learn to adapt to their environment.

Operant Conditioning:

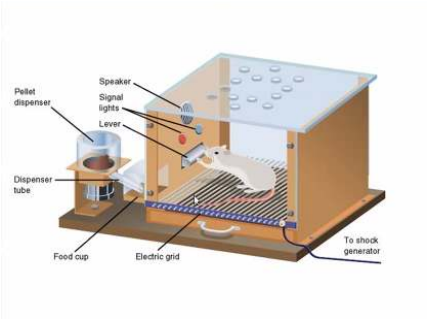
Learning about the consequences of behavior:

- **Operant conditioning-** *learning that associates a response with its consequences – producing a rewarding or punishing stimulus*. We learn that our voluntary actions lead to certain outcomes. Repetition allows us to see which behaviors result in negative and positive outcomes. This increases our behaviors with positive outcomes. ex: if a child sees tantrums give them more attention from parents, they will keep doing them. Ex: Training a dog- they will do things if they get a treat after.

Operant Conditioning - **Skinner**:

- B.F. Skinner proposed the idea of a discriminative stimulus.
- Discriminative stimulus – the *stimulus situation sets the stage for the response to be followed by reinforcement or punishment.*
    - Skinner Box: The box has a bar/button that the animal can manipulate to obtain a reinforcer such as food or water. Devices record the animal's responses
- Skinner identified 3 types of responses (aka operants) that can follow behavior – **neutral operants, reinforcers and punishers.**
    - Neutral-- does not increase or decrease the probability of the behavior to be repeated.
    - Reinforcer-- increases probability of the behavior to be repeated
    - Punisher-- weakens the likelihood of the behavior to be repeated.

Operant Chamber/Skinner Box:



- Ex: rat in box. Rat pushes lever, gets food. Then when the red light is on and the lever is pushed, get shocked. Clear light and lever = get food. Rat learns when to push the lever. Maximizes the positive outcome and minimizes the negative outcome.
- Learning which professors are ok with raising hands and asking qs in class and which professors are not.

Reinforcement:

- A reinforcer – any event that **strengthens** the behavior it follows – it encourages a behavior to occur again
- *There are two majors types of reinforcers – positive and negative*

Positive Reinforcement:

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- Positive reinforcers - **increase the frequency of the behavior they follow when they are applied,** strengthens the behavior because the consequence is something the creature finds **rewarding**.
    Examples: Food, fun activities (like with the rat), and social approval
- In positive reinforcement, a behavior is reinforced (repeated) because **a person received something he or she wants following the behavior.**

Negative Reinforcement:

- Negative reinforcement- **increases the frequency of a response when the event is removed** – helps you avoid, eliminate or escape from the situation.
    - **Removal** of an unpleasant consequence
    - Removal of adverse stimulus
    - Behavior increases, because something unwanted stops
        - Ex. If you have to pay your teacher 1 dollar if you don't do your homework, then you are doing your homework more often and removing the unpleasant thing of paying your teacher.
        - Flossing your teeth, removes the discomfort of having things stuck in your teeth.
        - Increase floss, takes away unpleasant visits to the dentist.
        - Shutting off the alarm clock. Removes the annoying noise.
- Negative reinforcement, behavior is reinforced because something unwanted stops happening or is removed following the behavior.
    - Examples: Discomfort, fear, and social disapproval

Punishments:

- Punishment – a consequence that decreases the likelihood of a response, it **weakens** the response.
    - A punisher is a reducer of the likelihood of a response.
        - Different from reinforcement → Increase behavior even if negative.
- *Different than negative reinforcement in that negative reinforcement increases the behavior, while punishments decrease the behavior they follow when they are applied*

Positive Punishment:

- **An event that when presented after a response, reduces the likelihood of a behavior.**
    - Example - If you stroke a cat's belly, the cat may attempt to bite you. Therefore, the presentation of the cat's bite will act as a positive punisher and decrease the likelihood that you will stroke the cat's belly in the future.
    - It is positive when the response leads to something aversive.
    - Ex. The cat is on its back so it gets pet, then it bites you, then you stop going to pet the belly.
    - Ex. picking on sibling, mother scolds you, it will reduce the behavior. You want to avoid something bad, so your repetition of this behavior will decrease.

Negative Punishment:

- Negative punishment occurs **when an event is removed after a response reducing the likelihood of the response occurring again.**
- Privileges are revoked and this will decrease this behavior.
- Example – If a child "talks back" to Mom, the child may lose the privilege of watching a favorite television program. Therefore, the loss of viewing privileges will act as a negative punisher and decrease the likelihood of the child "talking back" in the future.

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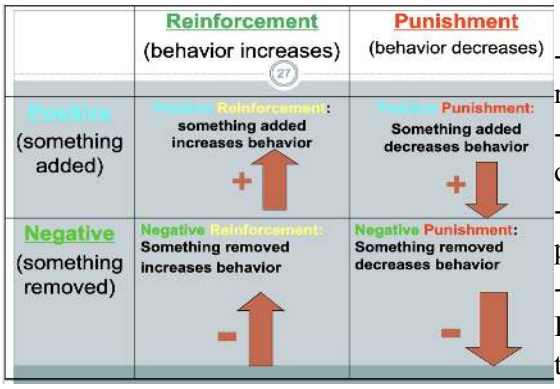

- Child does chores, gets a candy bar, will do it again- positive reinforcement
- child does a chore this week, next week doesn't have to, so he will do the chores and be happy to have a free week- negative reinforcement
- we will add something that will be annoying and decrease behavior for positive punishment
- We will take away something valuable and it will reduce behavior
Ex. teen cuts class, mom takes away her phone, this will cause the teen not to cut class again = negative punishment

Final Make up examples maybe for this^^??

Should we use punishment??

Drawbacks to Punishment:

- There may be justification for the occasional punishment (not physical) but research suggests that it may have negative effects:
    - Results in unwanted fears-- can carry into adulthood.
    - It suppresses behavior but does not provide any teaching of appropriate behavior
    - Justifies pain to others (models aggression)
    - Causes one unwanted behavior to appear in place of another
    - Causes aggression towards the agent of punishment
- Hard to measure the appropriate amount of punishment.

Schedules of Reinforcement:

Broken down into certain patterns to get behaviors to increase

- Behaviors are likely to be repeated with pos and neg reinforcements. The strength of the repetition of behavior depends when the reinforcements happen.
    - Must be clear that behavior predicts the reward! Otherwise learning will be slow.
- Is a rule used to determine when a particular response will be reinforced.
- Continuous reinforcement – a response is followed **quickly** by reinforcement **every time** it occurs. **Learning is rapid**, but if the reinforcement stops, the behavior does too and learning is lost. Does not resist extinction after the reinforcement ends and will fade away quickly. Ex: Pavlov and his dog. Bell ringing means food.
- Partial reinforcement – a response is followed by reinforcement only **some** of the **time**. It results in **slower acquisition** of a response but much greater resistance to extinction than does continuous reinforcement. Has 4 major types of reinforcement schedules
- **Slower learning**. But will **fade away slower**, and linger more

Interval Schedules:

- **Interval** is always dealing with **time**
    - Fixed interval that is a fixed amount of time. Like every five minutes.
- A **ratio** schedule focuses on number of **responses**
    - Fixed-Ratio schedule- this schedule requires a certain number of responses before reinforcement is delivered.

Fixed Interval Schedule:

- Fixed-interval schedule – reinforcement is received for the first response occurring after a fixed time interval.

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        - Example – rewarding a pigeon with food when it pecks a lighted key after 2 minutes have elapsed
            - Increase peck- the more reward.
- This schedule produces lower rates of responding due to lack of association between number of responses and reinforcement
    - Responding slows down after reinforcement but usually increases as the end of the interval approaches
    - It is harder to do association between time and responses→ lower rates of response, because learn that there is less to respond to.
    - Interval & Ratio Schedules:

Variable Interval Schedule (has to do with **time-** never know **when** you will get a reward):

- Variable-interval schedule – reinforce the first response after varying (unpredictable) time intervals.
    - Learning will be slow and steady
- This reinforcement schedule produces slow, steady, more consistent responses than the fixed interval schedules.

Ratio Schedules:

- **Fixed-Ratio** schedule - this schedule requires a **certain number of responses** before reinforcement is delivered.
    - This schedule produces steady and consistent rates of responding because the relationship between the response and reinforcement is clear and predictable
    - Clear connection between response and reinforcement. Steady responses.
        - Ex. you will not be paid until you make 3 dozen cookies. Doesn't matter how fast, just has to get done.
        - Assembly lines use this scheduling, because you are paid for how many things you make, so you want to make as fast as possible.
        - If the number of responses is relatively high, you get your reward, and then you have a post reinforcement pause, because you know you have a lot to do before you get your next reward.
- Variable Ratio Schedule:
    - Variable Ratio Schedule- reinforces a response after an unpredictable number of responses.
        - Reinforcement can occur after the first response but the next time the reinforcement may not come until 9 times of responding.
        - Hard to extinguish behaviors learned through this schedule because of the unpredictability
            - Major example of variable ratio schedule of reinforcement – gambling at casinos
                - You never know when you will be reinforced. A person will sit at the slot machine all day long, because you never know how long it will take.

<u>Learning by Observation:</u>

- **Modeling –** the natural tendency to **imitate** the **behavior of significant others**
    - Often called **Social Learning-** because we learn from our environment.

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        - Learning from trial and error can be tedious and dangerous.
- Observational learning is very effective when the model has positive characteristics like attractiveness, honesty, competence, and social standing
- Effective when we observe the model being rewarded for their behaviors.
    - If someone studies 24/7 and aced the SAT and gets into Ivy Leagues, then you will try to do that too.
    - You will try to learn from social standing models, who are good models to go by.

Modeling:

- Follow the Leader: The behavior of others increases the chances that we will do the same thing
    - Clapping, looking out the window, copying the styles and verbal expressions of our peers
    - Naturally imitate others' behaviors.

Albert **Bandura's** Bobo Doll Experiment:

Bandura was particularly influential in the study of **social learning**. He looked at **aggression** and how modeling impacts aggression.

- Children were exposed to adults displaying aggression toward a Bobo doll, and were then observed in a room filled with toys
- What happened? An adult, they played the bobo doll, and was rewarded for beating up the doll, which was correlated with the child and how the child engaged in that behavior.
    - Child who watched the model get rewarded, did the same thing as the model.
    - If the model was punished the child wouldn't have beat up the bobo doll.

Learning in Practice:

- Modeling desirable behavior can lower unwanted or maladaptive behaviors
    - We can use modeling to shape behaviors, increase positive behaviors, decrease negative behaviors.
- Effects- Negatively - modeling can not only influence behaviors, it can also influence thinking, i.e. desensitizing people to pain, violence, distorting perceptions of violence, influencing gender & racial stereotyping, etc.
- Applied Behavioral Analysis – a type of **therapy focused on improving specific behaviors as well as adaptive skills for those with psychological disorders, common therapeutic intervention for those with autism**
    - Helps shape their behaviors, social skills, educational skills…
- It is important to have good role models, because we mimic what we see.

Chapter 14: Personality:

WHAT IS PERSONALITY?

- **Personality**
    - Refers to an individual's unique constellation of consistent behavioral traits that differentiates the person from others and leads to consistent behavior across situations
    - Are we born with it or do we get our personality from our environment?
- *3 approaches to understanding personality:*
    - *Trait theory*
    - *Psychoanalytic*
    - *Humanistic*

TRAIT THEORY APPROACH

- **Trait theories**

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- Are systems for assessing how people differ, particularly in their tendencies to act consistently across situations. This is achieved by <u>analysis of the performance of groups on rating tests or questionnaires. This identifies and establishes stable characteristics.</u>
- Through factor analysis psychologists analyze **correlations** among test responses; can 1 response predict a rating on another trait?
- If someone says they are kind do they also say they are kind and trusting? If you know the response of one trait, can you predict the rating of another trait?
- **<u>Cattell--</u>** Grouped 16 basic personality traits and grouped them with their polar opposites. Ex: tension: inpatient vs relaxed
- **<u>Eysenck--</u>** says there are only 3 superfactors:
    - *extroversion-- how sociable and outgoing*
    - *neuroticism-- your anxiety and moodiness*
    - *psychoticism-- ability to be insensitive and cruel to others.*

DEFINING PERSONALITY: THE BIG FIVE!

Trait	Description
Openness	Being curious, original, intellectual, creative, and open to new ideas.
Conscientiousness	Being organized, systematic, punctual, achievement oriented, and dependable.
Extraversion	Being outgoing, talkative, sociable, and enjoying social situations.
Agreeableness	Being affable, tolerant, sensitive, trusting, kind, and warm.
Neuroticism	Being anxious, irritable, temperamental, and moody.

- These are the main 5 we go by today, but there is a lot of debate with other personality trait models. Developed by Cray and Costa.
- Each of these traits have the high and the low and of course there is also a medium. For extroversion you're either high or low.
- If you are starting a company, you would probably want employees who are calm and low in neuroticism.

CULTURAL DIFFERENCES

Does it affect personality?

- Most agree the big 5 traits are found across cultures
- Which traits are emphasized vary amongst cultures.
    - <u>Individualistic cultures promote independent views of the self</u> (extraversion, assertiveness, competitiveness, and self-confidence) and lead to self-development. Lower on the agreeableness. Ex: the U.S. emphasizes extroversion. It is all about competition and self development so less agreeing.
    - <u>Collectivist cultures promote cooperation, mutual interdependence, and consciousness</u> (focus on neg. attributes and how to fix them). This emphasizes being aware with what is going on with others, agreeableness, conscientiousness, and being considerate of others.

DEFINING PERSONALITY:

ALLPORT'S TRAIT THEORY

- **Gordon Allport – believed that personality was a measure of one's uniqueness as an individual, not from group statistical analyses. In essence his work was case studies on individuals.** Trait approach averages personality and he did not agree with that method. Did not like group statistical analysis.
- **Allport classified personality traits as:**

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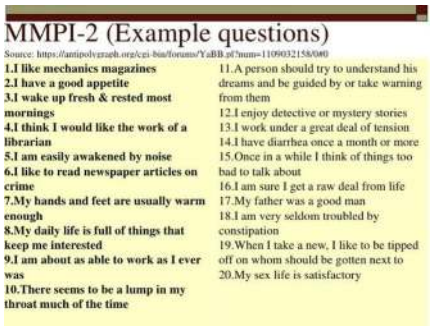
- Cardinal– personality **traits that dominate an individual's life,** our dominant passions, this trait eclipses all of the other traits. Something that the person is known for. Not everyone has these traits. Very focused and motivated people. Ex: a passion to serve G-d in all of their actions.
- Central– **5-10 descriptive traits you would use to describe someone you know**, these are the most common, we all have them.
- Secondary – **less obvious characteristics** that are only evident in particular situations and contexts. Ex: person goes on a diet and becomes very cranky.

MEASURING PERSONALITY TRAITS

Self-report Inventories

- **questionnaires which ask questions regarding how individuals typically think, act and feel. Their responses are compared to averages for each group.**
  - Example- MMPI aka Minnesota Multiphasic Personality Inventory (newest version came out in 2020- much more detailed than previously.
    - Has 100s of True/False questions. The responses are expressed in a personality profile that discusses a person's scores on various subscales
      - Also used for diagnosing psychological disorders
      - Controversy over using projective tests bc they are vague and subject to interpretation. People use these tests but there is more emphasis on surveys and inventories.
      - Inventory test scores are compared to other people in your cohort to see if you fall within the norms of your Age and sex cohorts
      - It compares scores from the average of cohort, but also for scores of people who have psychological disorders schizophrenia, depression…
        - If your scores are similar to someone who has schizophrenia, we might be able to start forming a diagnosis for you.


MMPI-2 (Example questions)

Source: https://antipolygraph.org/cgi-bin/forums/YaBB.pl?num=1109032158/0#0

1.I like mechanics magazines	11.A person should try to understand his dreams and be guided by or take warning from them
2.I have a good appetite	12.I enjoy detective or mystery stories
3.I wake up fresh & rested most mornings	13.I work under a great deal of tension
4.I think I would like the work of a librarian	14.I have diarrhea once a month or more
5.I am easily awakened by noise	15.Once in a while I think of things too bad to talk about
6.I like to read newspaper articles on crime	16.I am sure I get a raw deal from life
7.My hands and feet are usually warm enough	17.My father was a good man
8.My daily life is full of things that keep me interested	18.I am very seldom troubled by constipation
9.I am about as able to work as I ever was	19.When I take a new, I like to be tipped off on whom should be gotten next to
10.There seems to be a lump in my throat much of the time	20.My sex life is satisfactory

^^^^ there is a lie scale ('L scale') to tell you if the person is telling the truth or not, if they are answering in a

Frequency scale-- tells if people are answering randomly.

Sometimes the person answering wants to appear their best selves. Socially acceptable way.

Don't test friends and family- they won't be so honest on the test.

- Projective Tests- Freudian approach-- **project unconscious thoughts and feelings**.
  - A type of test in which individuals are asked to interpret unstructured or ambiguous stimuli; responses are compared to the responses of others who have taken these tests
  - Examples – Rorschach test (inkblot), Thematic Apperception Test
    - Create a picture based on what you see. Then psychologists have to interpret those drawings. These tests are criticized because diff psychologists can interpret the same answers in diff ways. But sometimes these tests are helpful to start a conversation in a therapy session.

RORSCHACH TEST EXAMPLE

Inkblots. Issue- their availability can impact their use as a valid test. You can look them up and their interpretations, and then you will give different interpretations.

→ a bug, a bat, two people- common responses

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When someone is interpreting this, psychologists can ask how did you come to see this? Which part of the picture are you using? All of these things are taken into account when analyzing someone's responses.

What do you see here?
→ Eiffel Tower, sea creatures, coral reef, lungs, human anatomy

TAT TEST EXAMPLE

→ researchers will ask what is happening at this moment? What led to this? How are they feeling? What is the outcome? Tell me a story about these individuals.
Positive story- optimist

→ kid is studying hard for a test

PSYCHODYNAMIC PERSPECTIVE

- **Things happen outside of our awareness and they influence our behaviors and personality development**
- Freud believed that the mind was divided into 3 major parts:
    - Conscious: contains the contents of **current awareness** –those things that are holding your attention at the moment. The here and now.
    - Preconscious: contains all of the **inactive but potentially accessible thoughts and memories** – you can easily recall them if you put your mind to it. Thoughts in storage. Ex: What did you do last Thursday?
    - Unconscious: houses **all the memories, urges and conflicts that are beyond awareness.** They exert a powerful influence even though they are unavailable to consciousness.
- **Freud's psychoanalytic theory encompasses unconscious motives and conflicts and the methods people use to cope with them especially sexual and aggressive urges**
- **3 part structure of personality**

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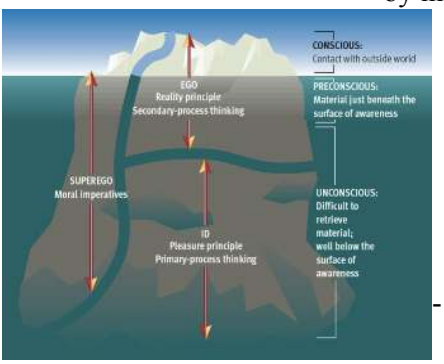
- **Freud believes the behavior is influenced by biological factors.**
    - Biological factors- instincts (inborn drives), particularly with sex and aggression, these drives motivate/controil out behaviors. They are in the unconscious mind but are outside of our awareness.
- **Id** – (when you are born- you are just id) motivated by the pleasure principle, governed by inborn **instinctual drives** particularly those related to sex and aggression



    - Motivated by pleasure.
    - Demands immediate gratification.
    - No concern for society's rules. (I want, I want it now)
    - It is adaptive, it supports the survival of the species- motivates sexual urges.
    - Maximize pleasure, minimize pain.
    - Developing physically
    - Dealing with rules of the outside environment, and the reality of life, so now as you grow your ego and superego are developing.
- **Ego** – the **Mediator**. It encourages you to act with reason and deliberation to conform to the requirements of the external world. Goal is compromise amongst the outside world, id and superego
    - Need to develop a nice strong and healthy ego.
    - Mediator between the id and superego
    - Goes by reality principle. How to fulfill desires without getting into trouble.
    - Delay gratification of the id's urges until you have the appropriate outlets.
        - Steal necklace (id), ego says i will go make money to get the necklace.
- **Superego** – the portion of the personality that motivates people to act in an ideal fashion as defined by parental **guidelines** and culture. It is shaped by experience.
    - Morality principle.
        - Morality. What is right and what is wrong.
        - Focus on being your ideal self.
        - Usually fully forms by 3-5. First 5 years of life are the key cornerstone of personality development.
        - Makes you feel guilty (its weapon).
        - It wields guilt, and supports you if you do the right thing.
        - Superego and id fight. Id wants what it wants (it's not good or bad though), and superego wants to follow rules.
- Id and superego are always opposed. Ego tries to balance the two with reality and morality.
- If someone has an overactive superego- if it gives you constant heavy criticism you will be depressed, anxiousness, low self-efficacy.
- You want to have an ego that is more balanced, that manages these three things.
- These interact to form your personality.

PSYCHODYNAMIC PERSPECTIVES

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The fallout of these sexual and aggressive conflicts by experiencing anxiety in our conscious mind. We were not aware of our unconscious battles or superego and id. Our ego wants to protect us and keep these anxiety thoughts out of our awareness.

- Behavior is the outcome of ongoing internal conflicts between the id, ego and superego of which we are unaware
- Conflicts lead to anxiety at which point the ego jumps in to use a variety of defense mechanisms
- <u>Ego comes with Defense mechanisms</u> – unconscious processes used by the ego to ward off anxiety resulting from confrontation with the urges of the id
    - The most important defense mechanism is **repression – a process by which anxiety-producing thoughts and feelings are buried in the unconscious**

Mechanism	Definition	Example
Denial	Not acknowledging that there is a problem.	A man has gotten a diagnosis from his doctor that he is HIV positive but is adamant that a mistake has been made and that his doctor is lousy.
Repression	Suppressing a memory until it disappears into the subconscious.	A woman doesn't recall being raped.
Projection	Putting your own beliefs or behavior onto someone else.	Talking about how stupid a video game system is with someone else, believing that they must feel the same even though they have never said so.
Regression	Acting in a way that is not typical for your age.	A child who knows how to walk starts to crawl around because their baby brother is getting so much attention for crawling.
Displacement	Showing emotion toward someone or something completely unrelated to that which caused the emotion.	An alcoholic gets in a car accident when driving drunk and then blames it on his wife who is at home.
Rationalization	Making up explanations for something that has happened.	A rapist thinks that since the girl he is raping looked at him seductively one time it must be okay to rape her.

← Defense Mechanisms:

Freud- his main one was **Repression**. **<u>Suppressing a memory until it is outside of a conscious mind.</u>**

Someone who is raped, erases it from their mind.

(Freud= preconscious and unconscious).

- Freud felt that a lot of people were sexually repressed. Particularly women.
- They engaged in inappropriate ways.
- We use defense mechanisms to manage anxiety- they are not 100% effective, which is why anxiety will break through.

Rationalization- making a reason for what happened. Reduces anxiety.

Denial- not acknowledging that there is a problem- had 3 DUI's, "I don't have a problem with alcohol."

Projection- putting your own beliefs or behavior on someone else. Someone says "She hates me" right they meet someone, when they might be the one who actually hates that person. (Harder for us to acknowledge that we hate someone).

Displacement- taking out your emotion on a much safer person, or object than the one you are actually angry at. Alcoholic- instead of being mad at himself, takes out anger at his wife instead.

FREUD'S PSYCHOSEXUAL DEVELOPMENTAL STAGES (personality development)

- **Freud believed that the foundation of personality is laid by the age of 5**
    - **Theorizes that children deal with their immature sexual urges (pleasure), will shape their personality.**
- **Sexual pleasure = physical pleasure**
- **5 Psychosexual stages (each with a characteristic erotic focus & developmental challenge):**
    - <u>Oral</u> – 1st year of life, pleasure is derived from sucking and placing things in the mouth
        - Like we know with babies, there are a lot of sensory neurons in the mouth, they are always sticking things in their mouth- this is pleasure, that is why they keep doing it.
        - At this stage, stop breastfeeding. Weaning. If the sensation of breastfeeding is traumatic, this will result in something that is called Fixation (below), failure to move forward.

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        - As an adult you exhibit behavior that is related to being stuck in that stage. As an adult you may overeat, smoke, talk too much, bite nails…
    - Anal – 2nd year of life, pleasure is derived from the process of defecation
        - Like going to the bathroom
        - Toilet training. Being told what to do and when to go to the bathroom. If it is not handled well with your parents, you can be fixated at this stage
            - Potentially as an adult you could be like the odd couple, Felix super neat and conscientious , and Oscar who is a slob and mean. Those are both two sides of a coin for someone who was fixated at the anal stage. Neat freak or mess. (Anal retentive).
    - Phallic – ages 3-5, pleasure is gained from self-stimulation of sexual organs
        - **Oedipus complex--** Boys develop urges for mother, girls develop urges for father.
            - Boy is afraid of father and hates him, because knows father is competition.
            - Girls have penis envy-- giving birth to boys helps women manage their penis envy. Girls think they are castrated boys.
            - To resolve this, the child needs to identify with the same sex parent.
            - Many disagree with Freud's theories. Did he just put his own issues into a theory?
    - Latency – age 5-puberty during which sexual feelings are largely suppressed. Urges are sublimated and repressed. No crisis here, just trying to make friendships and get through school.
    - Genital – final stage where one develops mature sexual relationships with members of the opposite sex
    - We look down on Freud a bit even though we still accept some of the things he said. Freudian slips and things like that (be aware of where they are coming from).

PSYCHOSEXUAL STAGES

- **Fixation** is a failure to move forward from one stage to another as expected. One continues to act in ways appropriate for the stage even after physical maturity
- Fixation can occur due to excessive gratification or frustration during a particular stage
    - leads to an overemphasis on the psychosexual needs prominent during the fixated stage in adulthood.

PSYCHODYNAMIC PERSPECTIVES – THE DISSENT

Pros:

- The unconscious-- things happen outside of our awareness that affect us.
- The role of internal conflict- fight ourselves between right and wrong. Our thoughts can conflict
- The importance of early childhood experiences- they thought of kids as little adults with no experience. What happens to you in childhood will influence you throughout your lifespan.
    - Other approaches say you have the opportunity to change and grow throughout your lifespan.

Cons:

- Poor testability

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- Inadequate empirical base
- Sexist views – Karen Horney vehemently disagreed with Freud. Horney was a neo-Freudian-- took his ideas and went in a different direction. Freud was reluctant to believe women who said they were raped or sexually abused. This was a drawback of Freud.

HUMANISTIC PERSPECTIVES

The curious paradox is that when I accept myself just as I am, then I can change.
Carl Rogers

Humanistic Perspectives (**Rogers & Maslow**)

- Emphasize the *unique qualities of humans* (freedom, potential for growth, etc.)
- Very optimistic view-- believed people were essentially good.
- Responsible for our behaviors – we can learn and grow from experiences. We can learn and grow from our experiences and can change throughout our lives. Our motivation is to grow and become our best possible selves. When we are blocked on this path, that is when negative character traits come through.
- A person's subjective view of the world is more important than objective reality
    - Self-view and view of our environment guides and motivates our actions
- **Carl Rogers: developed what is called Person Centered Therapy**
- **(unconditional positive regard- accept people for who they are. Bring peoples self-concepts more aligned than how they see themselves ideally. Understanding society, but doesnt' matter what society says, I know who I am.**
- **Counseling psychology.**
    - Person-centered therapy-- Viewed personality structure in terms of **"self-concept"** our organized set of beliefs about our own behavior, nature, and qualities
    - When you have awareness, then you can make an active effort to change
        - Self-concept develops primarily through social interactions with significant role models.
    - We rely on others to develop because of our basic need for **positive regard**. However in real life conditions of worth tend to be attached to others' approval. We need people to like and value us.
        - A lot of times positive regard is tied to conditions of worth. These are standards we believe others place on us. Condition of worth: I am accepted and loved if I do x,y and z.
        - What you want is unconditional positive regard. *Being accepted for who you are no matter what.* This allows the person to accept who they are and this leads to growth.
    - **Incongruence** is the degree of difference between self-concept and actual experience (if it is accurate, it is congruent)

HUMANISTIC PERSPECTIVES - MASLOW

- Like Rogers (self-concept→ achieve self-actualization), **Maslow** believed that humans have an innate drive toward **personal growth**, culminating in the need for **self-actualization**, which is the need to fulfill one's potential.
- Self-actualization – the ingrained desire to reach one's true potential as a human being
    - whatever you do, being our ultimate self.
- Proposed that human motives are organized into a **hierarchy of needs (Maslow)**
    - Systematic arrangement of needs. Need to be met in order of priority.

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"If you plan on being anything less than you are capable of being, you will probably be unhappy all the days of your life."

Maslow's Hierarchy of Needs:

- <u>You can't focus on lower things, until the top things are taken care of.</u>
- After fulfilling these, then have self-actualization. Survival needs are
- Self-actualizing people are persons with exceptionally healthy personalities.

Which are marked by continued personal growth, with no endpoint in self fulfillment.

- *He found, people who reached self actualization were really in tune with reality and at peace. (they are sensitive to others needs)*

How did he come up with these needs?

- Maslow believed negative traits like unkindness, defensiveness, etc. only happen when one fails to satisfy basic needs, they are not fundamental to the human spirit
    - He looked at people he felt were self-actualized and learned from them (Albert Einstein). He felt that those who are self-actualizing do not show the negative traits, they're positive, creative, accepting. It's when you're blocked on your path to self actualization that the negative traits we have like unkindness defensiveness hostility those happen when we're blocked from reaching our needs for self-actualization. (they are not actually fundamental to being human).
        - <u>Our negative traits come out when we are blocked from our potential.</u>
- Self-actualizing people do not show these negative traits which can be seen in people stuck in lower levels of the needs hierarchy
    - If you are stuck lower on the levels of hierarchy, care about self-actualization.
        - You can be an angry suffering person.

Maslow's view of self actualizing personality:

How many of these are you getting towards on your path to self-actualization.

- Con about the pyramid- Some people put their safety needs behind things lower down, yet they are considered higher on the path of self-actualization- criticism.
- The pyramid is not as structured as it is.
- Later he felt that it was a lot more fluid than his original pyramid.

Characteristics of self-actualizing people
• Clear, efficient perception of reality and comfortable relations with it
• Spontaneity, simplicity, and naturalness
• Problem centering (having something outside themselves they "must" do as a mission)
• Detachment and need for privacy
• Autonomy, independence of culture and environment
• Continued freshness of appreciation
• Mystical and peak experiences
• Feelings of kinship and identification with the human race
• Strong friendships, but limited in number
• Democratic character structure
• Ethical discrimination between good and evil
• Philosophical, unhostile sense of humor
• Balance between polarities in personality

EVALUATING HUMANISTIC PERSPECTIVES

- Humanists believe in personal choice and responsibility –you can grow and are not led solely by primal urges.
    - Positive outlook on humanity. Not only focus on abnormality.
    - Positive psychology focuses on healthy psychological development.
- <u>Pro-</u> belief in personal choice and responsibility.
- They also have focused attention on the issue of what constitutes a healthy personality.
- <u>Con</u> – Lack of a strong research base – very hard to define exactly growth and self-actualization
    - Very hard to test.

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    - How do you test belonging needs, and self-actualization?
    - How do we define growth?
    - We need to define self-actualization in a way we can define it.
- Con – rely on self-reports which may not be reliable and accurate representations of internal psychological processes; hard to test
- Too optimistic a view of human nature
    - It's not an endpoint, it's a constant process.

  We need balance!
    - This is psychology's view.
    - We can change over time. We can develop and grow.

THE PERSON-SITUATION CONTROVERSY

- *This debate centers around whether people really do behave consistently across situations*
    - Do we behave consistently throughout?
    - Bandora- environment controlled behavior.
- Walter Mischel (1968) studied **correlations between behaviors at different points in time and found that correlations across situations were very low.**
- Focuses on how the situational factors govern behavior
    - If someone cheats will they steal? Measuring dishonesty, then tested if would steal, and there was no correlation. Kids who cheated were not any more likely to steal than the kids who did not cheat.
        - But if you cheat on one test, you are more likely to cheat on another.
        - So similar situations are more likely to do than something different.
    - Self-monitoring - People look at the possible outcomes to choose a behavior
        - Look at the outcome to choose behavior.
        - Low in self-monitor- won't analyze many situations. So behavior is less consistent
        - High in this trait- you will appear more consistent.
        - Testing- using OCEAN (the big 5), people rate them self extraverted. Traits appear when they are relevant to a situation where they are relevant.
    - Research looking at traits and behavior found that we are capable of a wide range of expression, but taken overall on average there is consistency.
- Ultimately psychologists take both the person and situation into account.

New Chapter: Psychological Disorders:

AKA ABNORMAL PSYCHOLOGY:

- Prevalence- the **proportion of the population that has been given a diagnosis**, what **percent** of the population of the US has had x during the last y years.
- Incidence- the **rate of new cases** of diagnosis in the last x years.

Statistics on Mental Health in the US:

- In 2019, there were an estimated 51.5 million adults aged 18 or older in the United States with AMI (a mental illness [SMI is severe mental illness]) . This number represented 20.6% of all U.S. adults.
- Young adults aged 18-25 years had the highest prevalence of AMI (29.4%) compared to adults aged 26-49 years (25.0%) and aged 50 and older (14.1%).

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- The prevalence of AMI was higher among women (24.5%) than men (16.3%).
- In 2019, there were an estimated 13.1 million adults aged 18 or older in the United States with SMI. This number represented 5.2% of all U.S. adults. Examples: schizophrenia, psychotic disorders.
- The prevalence of SMI was higher among women (6.5%) than men (3.9%).
- Young adults aged 18-25 years had the highest prevalence of SMI (8.6%) compared to adults aged 26-49 years (6.8%) and aged 50 and older (2.9%).
- Gender and age affect the prevalence of mental illness.
- Mood disorders, i.e. major depression, bipolar disorder, etc. are the third most common cause of hospitalization for both youth and adults aged 18-44.
- Individuals living with serious mental illness face an increased risk of having chronic medical conditions. If you have a serious mental illness, it is hard to keep track of medication and engaging in proper behaviors.
- Suicide is the 10th leading cause of death in the U.S. and the 2nd leading cause of death among people aged 10-34 in the U.S. The number one in this age group is accidents.
- **The overall suicide rate in the U.S. has increased by 31% since 2001**
- Annual prevalence of serious suicidal thoughts:
    - 17.2% of high school students
    - 47.7% of lesbian, gay, and bisexual high school students
- Each day an estimated 18-22 veterans die by suicide.
- We need to know these statistics so we can help people. Early intervention is very important when it can be done. We need mental health programs to be available and accessible.
- **DSM-- diagnostic and statistical manual**

What is Abnormal Behavior?

- How do we know that a behavior is abnormal and truly in need of treatment?
- What are the criteria used to define and describe psychological disorders & abnormal behavior?
- What is the effect of diagnostic labeling?

Defining Abnormal Behavior:

- Several of the following criteria need to be met in order for a behavior to be labeled abnormal:
    - Statistical deviance – a behavior is abnormal if it is **rare** in a population
    - Cultural deviance – a behavior is abnormal if it **violates the rules or accepted societal standards**. Normal behavior in one group of people could be abnormal for other groups. Women who do not adhere to cultural norms have been locked up in institutions in the past. Success story: Marie Curie
    - Emotional distress – **presence of personal or emotional distress**, someone who has schizophrenia might feel ok and emotional distress would not be a symptom.
    - Dysfunction – **a breakdown in normal functioning, an inability to pursue adaptive strategies**
- Key point – "abnormal" and "normal" are not rigid categories, they are endpoints on a continuum of behaviors. Occasional instances of these symptoms do not categorize someone as abnormal. It is when they are taken to the nth level that we realize something is going on.

Normal	Criterion	Abnormal
Common	Statistical deviance	Rare
Acceptable	Cultural deviance	Unacceptable
Low	Emotional distress	High
Adaptive	Dysfunction	Maladaptive

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Just because you have psychological disorders, doesn't mean you are insane…

What is Insanity? **Insanity is when one does not know the difference between right and wrong**

- Insanity is a legal term defined as the inability to understand that certain actions are wrong legally or morally at the time of a crime.
- Someone diagnosed with a psychological disorder can still be judged as legally sane
- Example – Jeffrey Dahmer- had serious psychological disorders, not found to be insane bc he could distinguish right from wrong, he had to drink before his crimes which showed he knew that what he was doing was wrong, Son of Sam
- If you are covering your trail then you know that what you're doing is inappropriate and you are not insane. You might have other psychological disorders, but you are not legally insane.
- Psychological study-- why do people follow serial killers?

Conceptualizing Abnormality as Disease:

- The Medical Model – **abnormality is symptomatic of an underlying disease which can be cured with appropriate therapy**. Overemphasizes psychiatric medications to cure people. These medications are helpful tools, but they are not a cure all.
- Controversy:
    - cannot directly compare physical illness and psychological problems because often the causes of mental illness are unclear
    - social, cultural context of symptoms is important, more so than for physical illness
    - Could cause an overemphasis on biological treatments for psychological problems

Labels:

- A label can be helpful for diagnosis (and insurance reimbursement) but a label can be problematic.
- Stigma – labeling a psychological problem as an illness or disorder can be stigmatizing, it **can affect how a person is seen by others, even the medical community**. Expectations can impact how info is interpreted. If you are expected to act abnormally, you might do that. Other times, knowing that you have a condition can alleviate distress.
- Diagnostic labeling effects:
    - Labels for psychological problems can become self-fulfilling prophecies
    - Make it difficult to recognize normal behavior when it occurs
    - May increase likelihood of abnormal behavior
- Rosenhan Study (1973): **Participants faked disorders to enter psychiatric ward. Other patients saw through the deception but staff did not**. How much did they fake the data? When doing research we must adhere to ethical standards.

Classifying Psychological Disorders:

- Describe the DSM
- Describe the common anxiety disorders.
- Describe the somatoform disorders.
- Describe the common dissociative disorders.
- Describe the common mood disorders.
- Describe the characteristics of schizophrenia.
- Describe the common personality disorders.

The DSM-V:

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- *What Is the DSM-V?*
    - Diagnostic and Statistical Manual of Mental Disorders, 5th edition (2013)
    - Published by the American Psychiatric Association
    - Used for the diagnosis and classification of psychological disorders
    - Intended to give objective, measurable criteria for diagnosing disorders
    - Does not suggest therapies or treatments
    - Does not discuss possible causes
        - **Criticized-** feel there is a lack of empirical support for additions and revisions.
        - Some of the reasons changes have been made is due to conflict in interest.
        - Many members who developed this, are psychiatrists, and tend to have stock options and ties to pharmaceutical companies.
        - Pharmaceuticals can be a very helpful tool, but not always.

Anxiety Disorders:

- Anxiety Disorders are marked by excessive apprehension, worry that impairs normal functioning
- Anxiety is useful in the short term- but if it is intense, then it can impact us severely and our ability to function. It is helpful in some ways- poh something came out of my body, get it checked out.
- When it is pervasive and excessive, then it is a problem that we have to deal with.
- **The worry of anxiety disorders are unrealistic or disproportionate to the danger that is posed.** Usually there is little chance that what you are afraid of will happen.
    - You are not just worrying. You are also doing weird things to feel better and not have anxiety.
- Generalized anxiety disorder: "Free-floating"anxiety, chronic worrying lasting at least 6 mo., chronically tense
    - Excessive and chronic worrying.
    - Certain symptoms and categories- chronic worrying for at least 6 months. No specific cause, you need to have at least 3 symptoms, difficulty sleeping, irritability, worrying… no specific worry just more about everything. Versus a phobia which is very specific.
- Panic disorder: **Recurrent discrete episodes or attacks of extremely intense fear or dread**
    - Many physical symptoms such as chest pains, shortness of breath, sweating, etc. (many think they are having heart attacks or that they are dying)
        - May be associated with *agoraphobia* (fear of public places)
    - Panic attacks are brief- but the anxiety is so high that it causes symptoms that are so severe. People can feel they are having a heart attack and that they are going to die. They end up going to the hospital and they find no issue with their hearts.
    - **Can come from a constant fear of losing control.** And in the midst of the panic attack you have no control over yourself .
    - After a panic attack, it is followed by at least a month of worrying about another one. And you are trying to avoid things that make you have another one.
        - So people don't want to leave their house, because they are afraid that they will lose control. They avoid, bus, subway. They can develop goreaphobia. They avoid public spaces. They are afraid no one can cope if they have a panic attack.
        - Sometimes panic attacks don't reoccur.

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- Phobic disorders: **Highly focused**, **irrational fear of a specific object or situation** (e.g., spiders, heights)
    - You are very afraid of one particular object or situation generally. But you can have more than one phobia. The fear is irrational.
    - Fears are categorized in 4 classes. 1) animals- snakes, bugs, spiders, dogs… 2) nature- storms, heights, ocean… 3) blood injection injury- faint at the sight of blood, afraid of needles 4)
- Social anxiety disorder: **Extreme anxiety in everyday social situation, fear of being watched and judged**
    - Public speaking, worry about the worst that can happen, how people interpret the way you behave, people judging you.
- Obsessive-compulsive disorder: **Persistent, uncontrollable thoughts (obsessions) or compelling need to perform repetitive acts (compulsions)** – Examples: Excessive cleaning, checking
    - To deal with obsession they engage in repetitive behavior which are compulsions.
    - Ex. checking windows 20 times before leaving the house- is a compulsion to reduce anxiety.
    - Most people realize their behaviors are abnormal.

Somatoform Disorders:

- **Psychological disorders that focus on the physical body**
    - Illness anxiety disorder (previously Hypochondriasis): **Long-lasting preoccupation with idea that one has a serious disease, based on misinterpretation of normal body reactions**
        - Sneeze and worry you have covid. And everyday you sneeze and then go to run to the doctor and get another test.
        - Every normal bodily reaction triggers this fear
        - Excessive fear over something that is not really grounded in reality.
    - Conversion disorder: **Real physical or neurological problems that seem to have no physical causes**, i.e. paralysis, inability to speak. Not intentional.

Dissociative Disorders:

- Characterized by **separation, or dissociation, of conscious awareness from previous thoughts or memories**
- Dissociative amnesia: **Inability to remember important personal information**
    - *Amnesia- memory loss.*
    - Forgetting can last for years. Ex: someone who was raped-- they have dissociated out of reality and they are in another world; world trade center survivors-- cannot remember how they got out of the building
    - Generally psychological in origin – trauma or severe stress
    - **Fugue states** may occur which are a loss of personal identity accompanied by escape from the home. May recover suddenly. Characterized by a flight like leaving home. Individuals claim they have no knowledge of what has happened in this period.
    - Depersonalization/depersonalization disorder-- feeling detached from your body, you feel like a spectator in your life. You go through the motions but you are not connected to your body.

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Dissociative Identity Disorder:

- **Individual alternates between what appear to be two or more distinct identities or personalities**, fragmentation of identity. These states regularly take control of the person's behavior and there can be extensive lapses in memory. Voices, dress habits, hobbies, jobs can all change as the identity changes. These changes can happen/be triggered from psychological stress. 90% of those in the US, Canada, and Europe who have dissociative identity disorder have experienced severe childhood sexual/physical abuse. The brain fragments identity to cope with the situation.
    - Has been known as multiple personality disorder
    - Identities may have awareness of each other
    - Results in impairment in functioning and creates a lot of stress on the person.
- Recognized by DSM-V, but not all clinicians believe in it
    - Some clinicians see this as role playing.
    - Some symptoms can be faked; others, such as optical changes, less easy to fake. Ex: one personality might be nearsighted and other might be far sighted.
    - Some clinicians view it as role-playing, similar to hypnosis
    - People can recover but not everyone does.

Mood Disorders: in the DSM 5 mood disorders have their own separate sections.

- Are characterized by prolonged, disabling disruptions in emotional state
- Two types:
    - Depressive disorders: **Prolonged and disabling disruptions in emotional state;** Individual suffers feelings of intense sadness & worthlessness
    - Bipolar disorders: **Mood shifts** between depression and extreme highs called manic states

Major Depressive Episode:

- **Five or more of these symptoms for at least 2 weeks:**
    - Negative self-concept
    - Persistent sad, anxious, or "empty" mood
    - Feelings of guilt, worthlessness or hopelessness
    - Loss of interest or pleasure in hobbies and activities-- stopping to do the things you usually do for fun.
    - Decreased energy or fatigue
    - Difficulty concentrating, remembering, or making decisions
    - Sleep changes – too much or too little
    - Appetite and/or weight changes
    - Thoughts of death or suicide, or suicide attempts

Bipolar Disorder - Mania:

- **Two poles-- depressive and manic states.**
- Manic state: Person becomes **hyperactive**, **talkative**, **decreased need for sleep; grandiosity, risk-taking**. People often enjoy their manic states, so they stop taking their medication.
- Manic state must last at least a week to be classified as such, but may last for months
- Note that functioning is often severely impaired and disrupts their lives. They feel they can do anything at this time. They will start this
- Bipolar disorder 1-- manic for at least a week, could last for months
- Hypomanic state if it lasts less than a week.

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- Kanye- has bipolar disorder- we hear about him when he is most likely in a manic episode. When he was running for president- said a lot of things about his family that he shouldn't have.
- Grandiosity can go along with mania, but it is also part of narcissistic personality disorder.
- He has grandiosity, he thinks he is god, and that he is the best ever.
    - He stops taking his medication which usually filters him.
    - He becomes a danger for himself, and a huge issue for the family.

Schizophrenia- how we think, in our emotions and behaviors:

- Under the umbrella of psychotic disorders because of the break from reality.
- Involves fundamental **disturbances in thought processes, emotion, and/or behavior.**
- The **individual lives in their own internal world where disordered thinking, delusions and hallucinations rule.**
    - Sometimes they dissociate when they are in the middle of their thinking. Their thinking is not organized, tangential, and faulty.
- Complex disorder that may be expressed in a variety of ways
    - Diagnosis comes from a variety of symptoms, part of a spectrum of disorders
- **Three main types of symptoms – positive, negative and cognitive**
    - Need at least 2 of these symptoms for at least 6 months to be diagnosed with this disorder.
- **Positive symptoms: Observable expressions of abnormal behavior**
    - Hallucinations-- ex: hearing things that are harmful.
    - Delusions-- thinking people are out to get you or that you have a different job.
    - Disorganized speech
- **Negative symptoms: Elimination or reduction of normal behavior**
    - Flat affect: Little or no emotional reaction to events.
    - Refusing to take care of self, problems with functioning at work, interpersonal situations.
- **Cognitive symptoms: difficulties in memory and decision-making, inability to focus**
- Each person's symptoms vary. There is no universal mold.

Personality Disorders:

- **Chronic**, enduring **patterns of behavior leading to significant impairment in social functioning**
    - Tendency to act inflexibly and engage in maladaptive behaviors and this disrupts relationships with others.
    - These disorders are especially resistant to treatment.
- Examples:
    - Narcissistic personality disorder- **exaggerated sense of entitlement which leads to excessive attempts to attract and be the focus of attention, grandiosity, lack of empathy, conceited boastful.** Want everyone to focus on them, grandiosity and lack of empathy. Just because someone has an ego does not mean they have NPD. Everyone is less than you in your eyes.
    - Antisocial personality disorder- a pattern of **behavior consistently observed from the age of 15 onwards characterized by disregard for lawful behaviors, lying,**

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impulsivity, irritability & aggressiveness, reckless disregard for safety of self or others, irresponsibility and lack of remorse.

- Borderline personality disorder- pervasive **instability with emotional regulation, social relationships and sense of self, high impulsivity, individual goes to great lengths to avoid real or imagined abandonment**
    - Fear of abandonment.
    - Go at great lengths to avoid this fear.

- Some clinicians view these as extremes of personality rather than disorders per se.

Understanding Disorders:

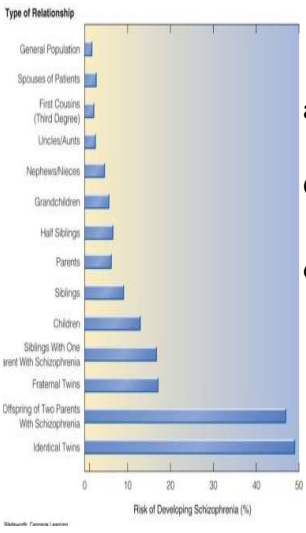
- How do biology and genetic factors contribute to these disorders?
- How do maladaptive thoughts contribute to psychological disorders?
- What is the environment's contribution to psychological disorders?

Biological Factors:

- Include physical problems with the body, brain, as well as genetic influences
- Neurotransmitter imbalances:
    - **Dopamine** excess in schizophrenia
        - Not the sole cause of the disorder.
            - Maybe structural changes in the brain.
            - Schizophrenia- the size of the ventricles is increased in the brain of those who have schizophrenia. Does the loss of brain tissue cause the issue?
    - Serotonin involved in mood disorders, but exactly how is less clear

Genetic Contributions:

- **Do some people inherit predispositions toward developing disorders?**
- **Genetic component of schizophrenia:**
    - Likelihood of having it increases with closeness of a relative who also has it
    - Highest likelihood for identical twin (chances are 1 in 2)
- **Similar pattern for depression, bipolar disorder**



- If both parents have schizophrenia, 50-50 chance their child has it too. The closer you are genetically to someone with schizophrenia, the more likely you are to develop it.

Cognitive Factors:

- Maladaptive thought patterns may contribute to development and persistence of disorders
    - How we think affects our behavior. We make cognitive errors and distortions.
- 10 forms of cognitive errors/distortions (Beck, Burns), some examples are:
    - "Black and White" (all or nothing) thinking- no one is good or bad
    - Mental filter-- focusing only on negative details and discounting the positive.
    - Catastrophizing-- blowing things out of proportion and magnifying things. Making minor mistakes into the end of the world.
    - Overgeneralization- if it happens once, it is always going to happen. One bad experience so they come to the conclusion it will happen again.

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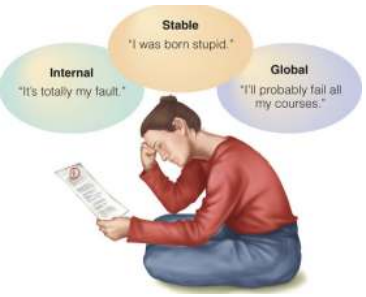
        - Jumping to conclusions- assuming you know what people think and why they behave the way they do without actually knowing. Leads to baseless depressive thoughts.
- Maladaptive attributions
    - Internal, stable, global attributions for negative experiences may play a role in depression



Environmental Factors:

- Do people learn to act abnormally? Yes.
    - Pressures, environment, phobias,
- Role of culture
    - A culture that emphasizes thinness may predispose you to anorexia nervosa
    - Cultural background may influence the kinds of delusions seen in schizophrenia
- Conditioning may play a role as well
    - Specific phobias may be acquired through classical conditioning or observational learning (modeling)

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